HP 3000 Computer Systems

Series 40/39
Installation Manual

HEWLETT PACKARD
19447 PRUNERIDGE AVENUE, CUPERTINO, CA 95014

Part No. 30170-90002
E0183

Printed in U.S.A. 1/83

FEDERAL COMMUNICATION COMMISSION RADIO
FREQUENCY INTERFERENCE STATEMENT

The United States Federal Communications Commission (in Subpart J, of Part 15, Docket 20780) has specified that the following notice be brought to the attention of the users of this product:

"Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference."

"This product has been tested and licensed by the Fernmeldetechnisches Zentralamt (FTZ) for use in West Germany. Included with the system is a registration postcard to be completed and mailed for all German installations."

NOTICE

The information contained in this document is subject to change without notice.

HEWLETT-PACKARD MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Hewlett-Packard assumes no responsibility for the use or reliability of its software on equipment that is not furnished by Hewlett-Packard.

This document contains proprietary information which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced or translated to another program language without the prior written consent of Hewlett-Packard Company.

Copyright (c) 1981-83 by HEWLETT-PACKARD Company

LIST OF EFFECTIVE PAGES

The List of Effective Pages gives the date of the current edition, and lists the dates of all changed pages. Unchanged pages are listed as "ORIGINAL". Within the manual, any page changed since the last edition is indicated by printing the date the changes were made on the bottom of the page. Changes are marked with a vertical bar in the margin. If an update is incorporated when an edition is reprinted, these bars and dates remain. No information is incorporated into a reprinting unless it appears as a prior update.

Third Edition Edition.....January 1983

Effective Pages	**Date**
ALL.....	*JAN 1983*

PRINTING HISTORY

New editions are complete revisions of the manual. Update packages, which are issued between editions, contain additional and replacement pages to be merged into the manual by the customer. The date on the title page and back cover of the manual changes only when a new edition is published. When an edition is reprinted, all the prior updates to the edition are incorporated. No information is incorporated into a reprinting unless it appears as a prior update. The edition does not change.

First Edition . . . . . NOV 1981
Second Edition . . . . . JUN 1982
Third Edition . . . . . JAN 1983

CONVENTIONS USED IN THIS MANUAL

NOTATION	DESCRIPTION
COMMAND	Commands are shown in CAPITAL LETTERS. The names must contain no blanks and be delimited by a non-alphabetic character (usually a blank).
KEYWORDS	Literal keywords, which are entered optionally but exactly as specified, appear in CAPITAL LETTERS.
parameter	Required parameters, for which you must substitute a value, appear in ***bold italics***.
parameter	Optional parameters, for which you may substitute a value, appear in *standard italics*.
[ ]	An element inside brackets is optional. Several elements stacked inside a pair of brackets means the user may select any one or none of these elements. Example: [A] [B] user may select A or B or neither. When brackets are nested, parameters in inner brackets can only be specified if parameters in outer brackets or comma place-holders are specified. Example: [*parm1*[,*parm2*[,*parm3*]]] may be entered as: *parm1*,*parm2*,*parm3* or *parm1*,,*parm3* or ,,*parm3* , etc.
{ }	When several elements are stacked within braces the user ***must*** select one of these elements. Example: { A } { B } user must select A or B.
...	An ellipsis indicates that a previous bracketed element may be repeated, or that elements have been omitted.
user input	In examples of interactive dialog, user input is underlined. Example: NEW NAME? ALPHA1
superscript^{C}	Control characters are indicated by a superscript^{C}. Example: Y^{C}. (Press Y and the CNTL key simultaneously.)
RETURN	RETURN indicates the carriage return key.
<<COMMENT>>	Programmer's comments in listings appear within << >>.
** Comment **	Author's comments appear in this form.

CONTENTS

	Page
PREFACE	viii

Section I	Page
RECEIVING THE SYSTEM	

Section II	Page
PROCESSOR GENERAL DESCRIPTION	
Physical Description	2-1
Electrical Description	2-4

Section III	Page
SYSTEM INSTALLATION	
Installing the Processor	3-3
Installing the System Console	3-3
Installing Disc Drives	3-4
Installing 7920 or 7925 Disc Drives (Masters)	3-4
The 7920/25 Disc Drives as Slaves	3-5
The HP 7911/12/14 Disc Drives	3-8
The HP 7933H Disc Drive	3-10
The HP 9895A Flexible Disc Drive	3-10
Installing Magnetic Tape Drives	3-10
HP 7970E Option 426 or HP 7971 Magnetic Tape	3-10
HP 7970E Option 425 Magnetic Tape (Slave)	3-11
HP 7976A Option 516 Magnetic Tape	3-11
Installing Printers	3-13
HP 2608A/S Line Printer	3-13
HP 2611A/17A/19A Line Printers	3-13
HP 2631B Line Printer	3-15
HP 2680A Intelligent Page Printer	3-15
Installing Terminals and Printing Terminals	3-15

Section IV	Page
TURNING ON THE NEW SYSTEM	
Processor/Peripherial Turn-On	4-1
Disc Drive Head Alignment	4-2

Section V	Page
SYSTEM VERIFICATION	
Off-Line Verification	5-3
On-Line	5-3
Workout2	5-5
System Power Fail Recovery Verification	5-7
System Back-Up	5-8

Section VI	Page
TRAINING THE SYSTEM OPERATOR	

Appendix A	Page
HARDWARE CONFIGURATION	
Configuration Restrictions	A-1
General Rules	A-1
GIC PCA Installation Rules	A-2

Appendix B	Page
UPGRADE INSTALLATION INFORMATION	
Introduction to Upgrades	B-1
Upgrading to HP 3000 Series 40	B-1
Preparing the System for Upgrade	B-3
Peripheral Upgrades	B-5

ILLUSTRATIONS

Title	Page
2-1 Processor Front/Side View	2-1
2-2 Processor Rear View	2-2
2-3 Processor Dimension View	2-3
3-1 Processor to Console Cable Routing	3-4
3-2 Master/Slave Disc Cabling for 7920/25 Disc Drives	3-6
3-3 System Disc HP-IB Device Select Switch (7920 or 7925)	3-7
3-4 7911P/12P/14P Disc Drive with ICTU Cabling	3-9
3-5 Mag Tape HP-IB Device Address Switch and HP-IB Cable	3-12
3-6 HP 2611A/17A/19A Cable Connection	3-14
4-1 Power Configuration Label and Switch Settings	4-3
4-2 Backplane LED's	4-4
A-1 External HP-IB Cable Configurations	A-3

TABLES

Title	Page
3-1 HP 3000/40 Peripheral Devices	3-2
4-1 Test Point Voltages	4-2
5-1 Available Device Tests	5-2
A-1 Card Cage Configuration	A-1
A-2 Peripheral Speeds and Device Loads	A-2
B-1 Upgrade Options	B-2

PREFACE

This manual describes the installation procedures for the HP 3000 Series 40 and Series 39 Computers. These descriptions are intended for Hewlett-Packard Customer Engineers trained for the HP 3000/40/39 Computers.

In cases where the manual refers to "the computer," "the system," or the "3000/40" BOTH the Series 40 and the Series 39 are being referred to. In cases where there is a difference between the Series 40 and the Series 39, the difference is described.

Before the computer can be installed, the site must be prepared as described in the Site Preparation and Planning Guide (part no. 30000-90206).

Additional manuals which may be helpful when installing the system are:

Product Support Package	30070-67001
Reference/Training Manual	30090-90001
Diagnostic Manual Set	30070-60068 (Copy with system)
Diagnostic Utility System	322231A (Copy with system)
C.E. Handbook	30070-90010
Console Operator's Guide	(Copy with system) (Part no. Changes with software version)
System Manager/System Supervisor Ref. Man.	30090-90014 (Copy with system)
MPE Utilities Manual	30000-90044 (Copy with system)

Service and installation manual(s) for the peripheral devices installed with the computer may also be helpful and should be taken on site if familiarity with the device is limited.

The organization of this manual presents the system installation activities in six sections, as follows:

Section I - Defines Hewlett-Packard and Customer responsibilities in receiving the system.

Section II - Presents mechanical and electrical considerations for the processor.

Section III - Presents general installation instructions for the system hardware and software.

Section IV - Provides system/peripheral turn-on procedures.

Section V - Presents system configuration and verification.

Section VI - Areas in which the HP customer engineer will familiarize the new system operator.

Appendix A - Provides hardware configuration data for the computer.

Appendix B - Provides instructions for upgrading to the Series 40 Computer from Pre-Series II, Series II, 30, or 33 Computers.

RECEIVING THE SYSTEM

SECTION I

The Hewlett-Packard Customer Engineer (CE) is primarily responsible for the installation of the HP 3000/40/39 Computer System according to the information presented in this text. This includes installation and verification of the HP 3000/40/39 central processor and any HP 3000/40/39 peripheral devices which are part of the system order. Hewlett-Packard data terminals should be installed when appropriate. Refer to the policy on installing HP Data Terminals as described by the Computer Support Division.

The customer should report any flaws in the shipment immediately to the carrier or to the carrier's agent and to the HP Customer Engineer. Be sure to save all crates, cartons, boxes, and packing materials for inspection. Do not make any verbal reports of damage or missing items without making a written report. The Customer Engineer should report problems which are HP's responsibility to the Support Engineer at the appropriate HP division.

Missing or damaged items will be replaced without waiting for the settlement of claims. Items shipped to replace damaged parts will be billed to the customer until the damaged parts are returned to Hewlett-Packard. The customer should not release the carrier until the shipment is verified to be in good order.

The customer is responsible for initial unpacking, inspecting, and locating of the system. The disposing of packing material is also the responsibility of the customer.

Each Hewlett-Packard shipment has a packing list on one of the cartons specifying material shipped. In addition, unpacking instructions are provided, as required.

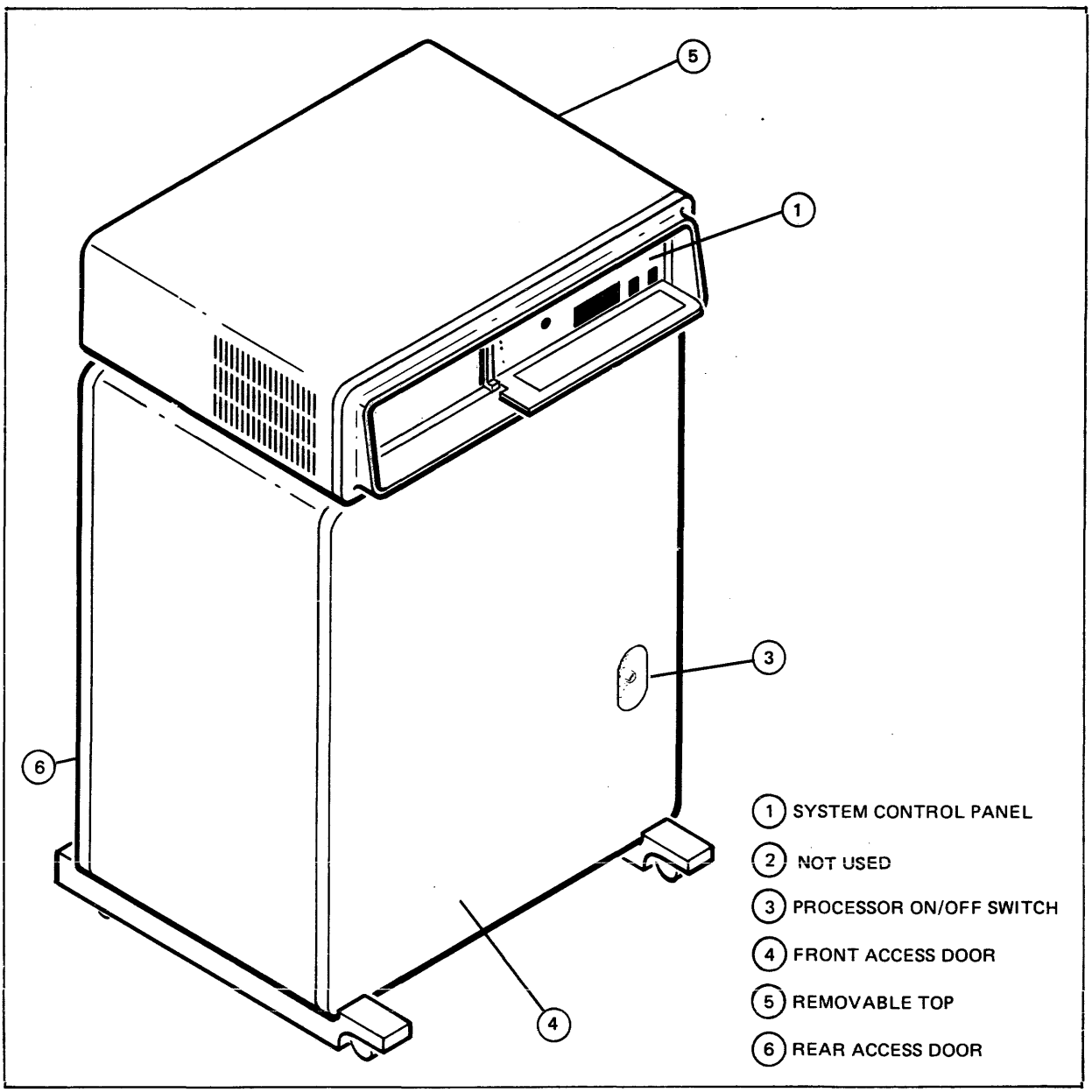
PROCESSOR GENERAL DESCRIPTION

SECTION II

PHYSICAL DESCRIPTION

The processor is completely tested and assembled before shipment. Thus it requires no involved assembly at the site.

Figures 2-1 through 2-3 illustrate the system processor. These illustrations are referenced throughout the manual.



147003-12

Figure 2-1. Processor Front/Side View

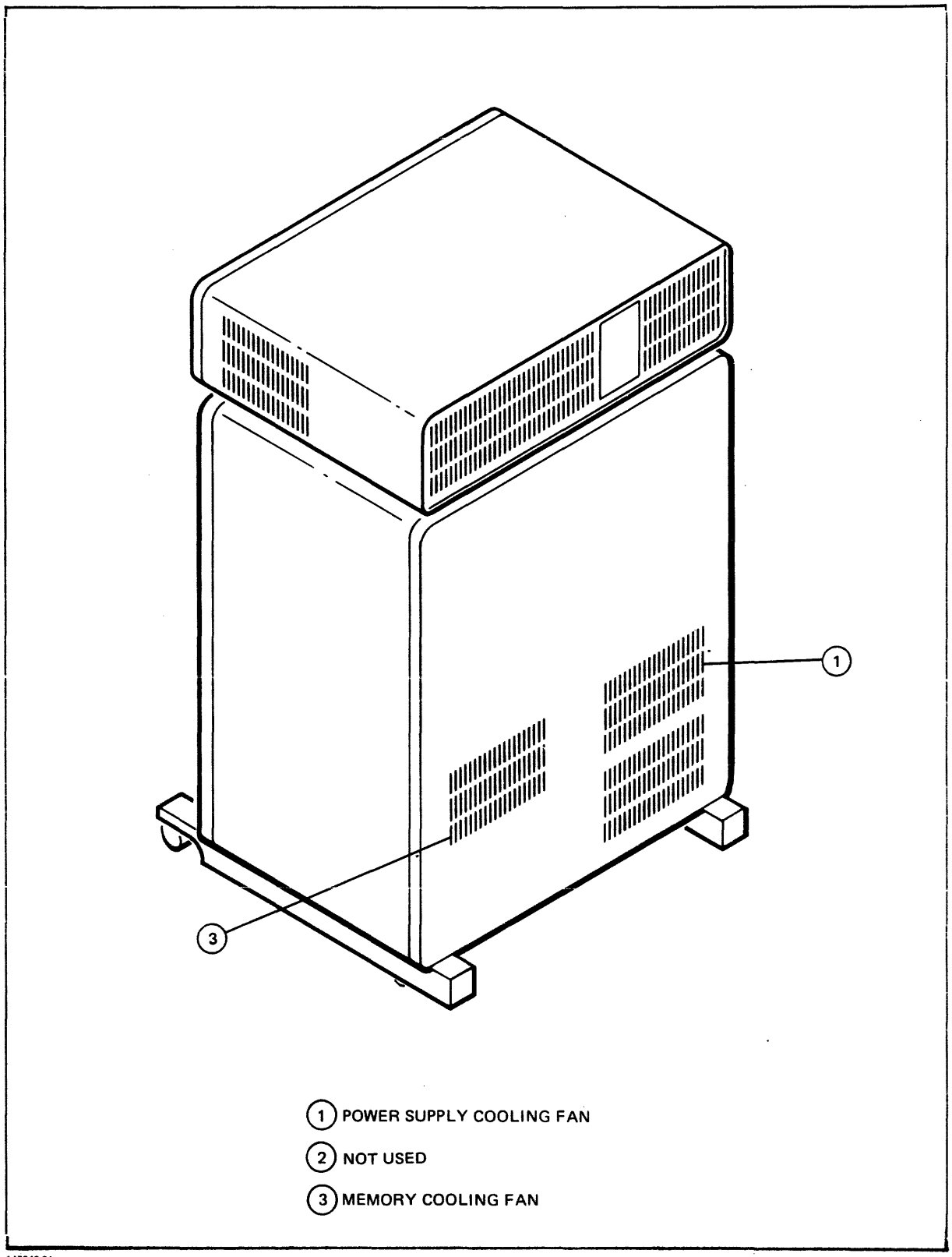


Figure 2-2. Processor Rear View

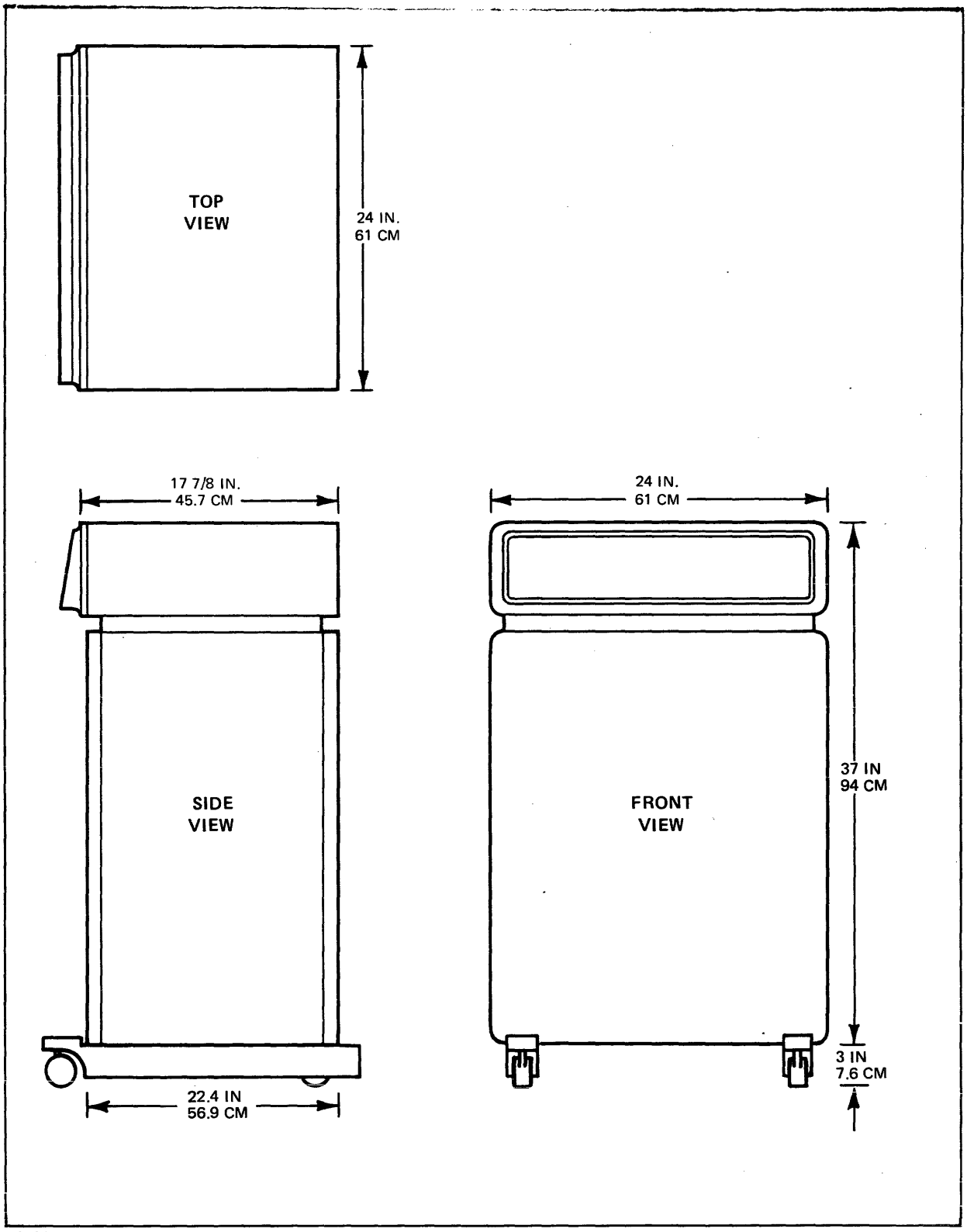


Figure 2-3. Processor Dimension View

ELECTRICAL DESCRIPTION

The processor unit is available for either 50-Hz or 60-Hz operation. The major hardware variation between these processors is the main power cord specified by each country. The processor may be operated from a single-phase, primary power source of 120 VAC for the 60-Hz processor, or 220 or 240 VAC for the 50-Hz processor. Power cords for 50-Hz systems must be manufactured locally to meet the requirements of the country in which the system is installed

NOTE

100V operation is NOT SUPPORTED on the computer. If the customer's site has 100V power, the customer must provide a transformer to step-up the voltage to 120V.

SECTION III

SYSTEM INSTALLATION

System installation consists of integration of the processor, the peripheral devices, and the system operating software. The peripheral devices interface with the processor through quad boxes and HP-IB cables. Technical descriptions of the I/O system and other related hardware are available in the Reference/Training Manual. Topics covered in this manual include:

a. Installing the Processor

b. Installing the System Console

c. Installing Disc Drives and Integrated Cartridge Tape Units

d. Installing Magnetic Tape Drives

e. Installing Printers

f. Installing Terminals

The HP 3000 Series 40 Computer System (32445A) consists of a System Processor Unit (SPU) with 512 kbytes of memory, and the peripheral devices ordered by the customer. Supported devices are listed in table 3-1.

The HP 3000 Series 39 Computer System (32514A) consists of: (a) a Series 40 SPU with 256 kbytes of memory; (b) either a 7911P or 7912P Disc Drive WITH a built-in Integrated Cartridge Tape Unit (ICTU); and (c) the supported peripheral devices ordered by the customer as listed in table 3-1.

Supported RS-232-C modems interface to the system through Asynchronous Data Communication Channels (ADCCs). All other devices connect through General I/O Channels (GICs).

In cases where the manual refers to "the computer," "the system," or the "3000/40," BOTH the Series 40 and Series 39 are being referred to. In cases where there is a difference between the Series 40 and the Series 39, the difference is described.

In general, installation of a peripheral device consists of connecting either an HP-IB or RS-232-C interface cable and an AC power cord. If questions arise or problems occur with any device, refer to the installation manual for that device. Unpack and move each device into place, then install it according to the procedures described.

Table 3-1. HP 3000/40 Peripheral Devices

DEVICE	MODEL	CHANNEL TYPE
Terminals	264x series	ADCC
	262x series	ADCC
	2382	ADCC
Factory Collection Terminals	307X series	ADCC
Printing Terminals	263x series	ADCC
	2601A	ADCC
Line Printers	2608A/S	GIC
	2611A	GIC
	2617A opt 344	GIC
	2619A opt 344	GIC
	2631B opt 331	ADCC
Page Printer	2680A opt 344	GIC
Mag Tape(master)	7970E opt 426	GIC
Mag Tape(slave)	7970E opt 421	N/A
Mag Tape	7971	GIC
Mag Tape(master)	7976A opt 516	GIC
Disc Drives	7906M	GIC
	7906S	N/A
	7920M	GIC
	7920S	N/A
	7925M	GIC
	7925S	N/A
	7911P	GIC
	7912P	GIC
	7914P	GIC
	7933H	GIC
Flexible Disc	9895A	GIC

WARNING

Hazardous voltages are present inside the processor and peripheral cabinets when AC power is applied. Therefore, do not connect the processor or any peripheral to a source of AC power until all units are installed and interconnections have been completed.

INSTALLING THE PROCESSOR

The processor (figures 2-1, 2-2, and 2-3) is installed as follows:

a. Ensure that the unit is positioned in an area which allows for complete cabinet door access and AC power receptacle access.

b. Ensure that the processor POWER switch is set to OFF.

c. Set the system control panel switches as follows:

THUMBWHEEL	CHANNEL NUMBER	DEVICE NUMBER
LOAD (from mag. or cart. tape)	9	1
START (system disc)	11	1
DUMP	11	1

INSTALLING THE SYSTEM CONSOLE

The standard system console is the HP 2621A; however, any of the Hewlett-Packard terminals or printing terminals can be used as the system console. The following procedure is given for the standard system console, and also applies to the other terminals.

1. Place the terminal on a sturdy table or other hard surface large enough to prevent it from being knocked to the floor. Do not place the terminal on the computer.

2. Ensure that the terminal ON/OFF switch is in the OFF position.

3. Connect the AC power cord from the console to a dedicated source of AC power.

4. Connect the console keyboard cable hood connector to the printed circuit card edge connector that has been notched to match the cable connector.

5. Connect the remaining console cables as shown in figure 3-1.

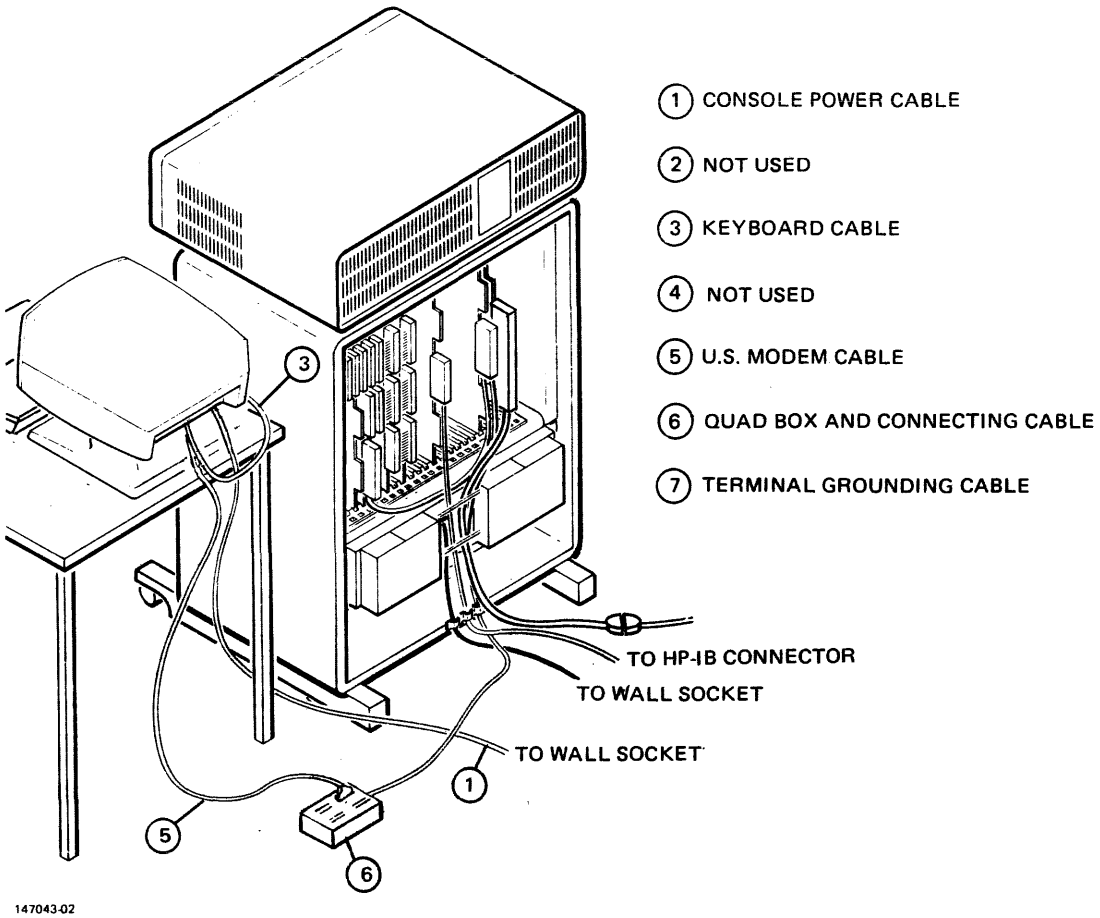


Figure 3-1. Processor to Console Cabling

INSTALLING DISC DRIVES

An HP 7920B or 7925B Disc Drive can be configured as the master or slave disc drive for the computer. The 7911P, 7912P, 7914P, and 7933H disc drives can only be configured as masters. General installation procedures for these discs are described in the following paragraphs. The installation manuals that come with the customer's disc drives should be referenced for detailed instructions and parts lists.

Position the system disc drive on one side of the processor cabinet allowing for the full opening of the rear access door. (The system disc drive unit contains a Disc Controller PCA.) Next, position the slave disc(s) near the master disc unit.

Installing the 7920 or 7925 Disc Drives as Masters

When installed as a master disc, the 7920 or 7925 dic drive interfaces to the computer via an HP-IB device I/O cable. The cable has one end preconnected onto the disc drive HP-IB I/O connector. Connect the free end to the computer as follows. (See figure 3-2.)

a. Ensure that the disc drive POWER switch is set to OFF (0).

b. Configure the CPU number select switch (S1) and the HP-IB device address switch (S2), located on the HP 12745A disc HP-IB controller PCA as follows: S1=0; S2=1.

   The HP 12745A is located in slot A-1 of the HP 13037B disc controller. (See figure 3-3.)

c. Route the HP-IB I/O cable to the processor I/O cable area as shown in figure 3-2.

d. Connect the disc drive AC power cord to a dedicated source of AC power.

Installing the 7920 or 7925 Disc Drives as Slaves

If a 7920 or 7925 Disc Drive is being installed as a slave, perform the following steps:

a. Ensure that the disc drive POWER switch is set to OFF (0).

b. Connect the disc drive power cord to a dedicated power source that has an isolated ground (or to a power line treatment device, if planned).

c. Connect the slave disc(s) data cables as depicted in figure 3-2 and the disc service manuals.

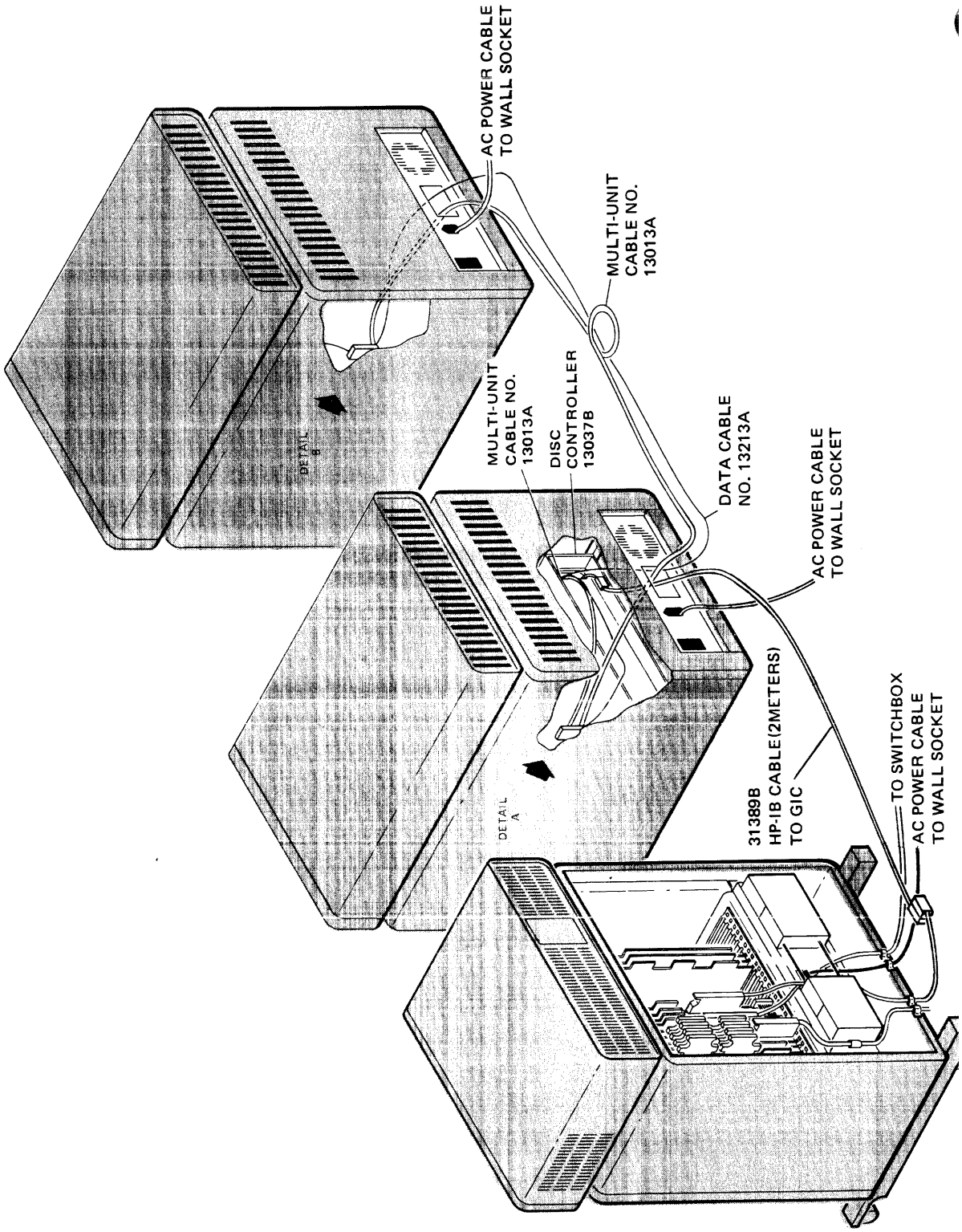
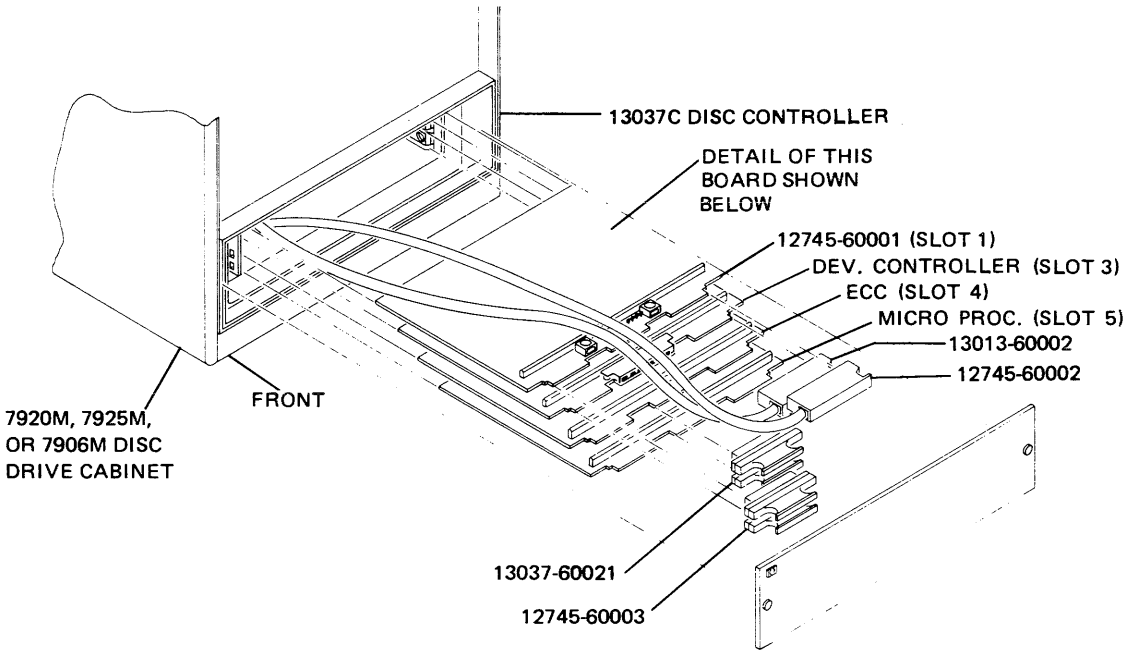
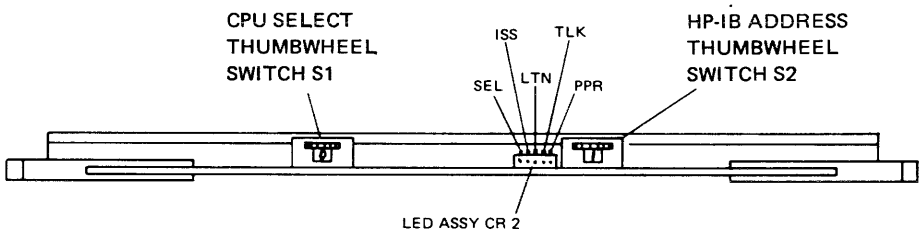


Figure 3-2. Master/Slave Disc Cabling for 7920/25 Disc Drives





12745A DISC HPIB CONTROLLER BOARD

CONTROL/ INDICATOR	FUNCTION
SWITCH S1	Selects CPU number (0 - 7). Number is detected by controller during its polling operation. In a multi-CPU system, no two CPU's can have the same number.
SWITCH S2	Selects HP-IB address (0 - 7).
LED ASSY CR2	Indicates operational state of adapter kit PCA. LED's are coded as follows:
	SEL – SELECT. When LED is lit, it indicates that controller is operating on adapter kit PCA. When controller is idle. LED will be dimly lit.
	ISS – IDENTIFY STANDBY STATE.
	LTN – LISTEN. When LED is lit, it indicates that adapter kit PCA is in Listen mode.
	TLK – TALK. When LED is lit, it indicates that adapter kit PCA is in Talk mode.
	PPR – PARALLEL POLL RESPONSE. When LED is lit, it indicates that adapter kit PCA is ready to respond to a Parallel Poll from the controller of the HP-IB as soon as it is given.

147003-06

Figure 3-3. System Disc HP-IB Device Select Switch (7920 or 7925 Disc Drives)

Installing the HP 7911/12/14 Disc Drives

All 7911P, 7912P, and 7914P Disc Drives must be configured as masters; they cannot be configured as slave units. (This is true whether the computer system being installed is a Series 40 or a Series 39.) The first 7911P, 7912P, or 7914P Disc Drive connected to the computer functions as the "system" disc drive. If additional 7911P, 7912P, or 7914P Disc Drives are added to the system, each must be connected to a dedicated General I/O Channel (GIC) PCA. In the case of the Series 39 Computer System, the 7911P, 7912P, or 7914P Disc Drive contains a built-in Integrated Cartridge Tape Unit (ICTU), which must be connected to the computer independent of the disc drive.

General installation rules for the disc drives are described in the following paragraphs. Refer to the 7911/7912/7914 Disc Drive Operation and Installation Manual (07912-90902) for more detailed instructions. (See figure 3-4.)

a. Ensure that the disc drive POWER switch, located on the rear of the drive, is set to OFF.

b. Connect the HP-IB device I/0 cable to the connector on the rear of the of the disc drive.

c. Route the HP-IB device I/O cable to a GIC PCA in the computer cardcage. Refer to Appendix A for the recommended slot positions and channel numbers of the GICs.

d. Configure the device address switches according to the instructions in the disc drive installation manual referred to above.

e. Connect the disc drive AC power cord to a dedicated AC power source.

CONNECTING THE ICTU. Once the 7911/12/14 has been installed as the system disc in a Series 39 Computer, the Integrated Cartridge Tape Unit (ICTU) which is built into the disc drive cabinet must be independently connected to the computer. Follow these steps (see figure 3-4):

a. The ICTU requires the use of a dedicated GIC PCA. Refer to table A-1 for the recommended slot assignments and channel numbers for the GIC.

b. Connect one end of the HP-IB device I/O Cable to the ICTU port and the other end to the GIC.

c. Connect the disc drive AC power cord to a dedicated AC power source.

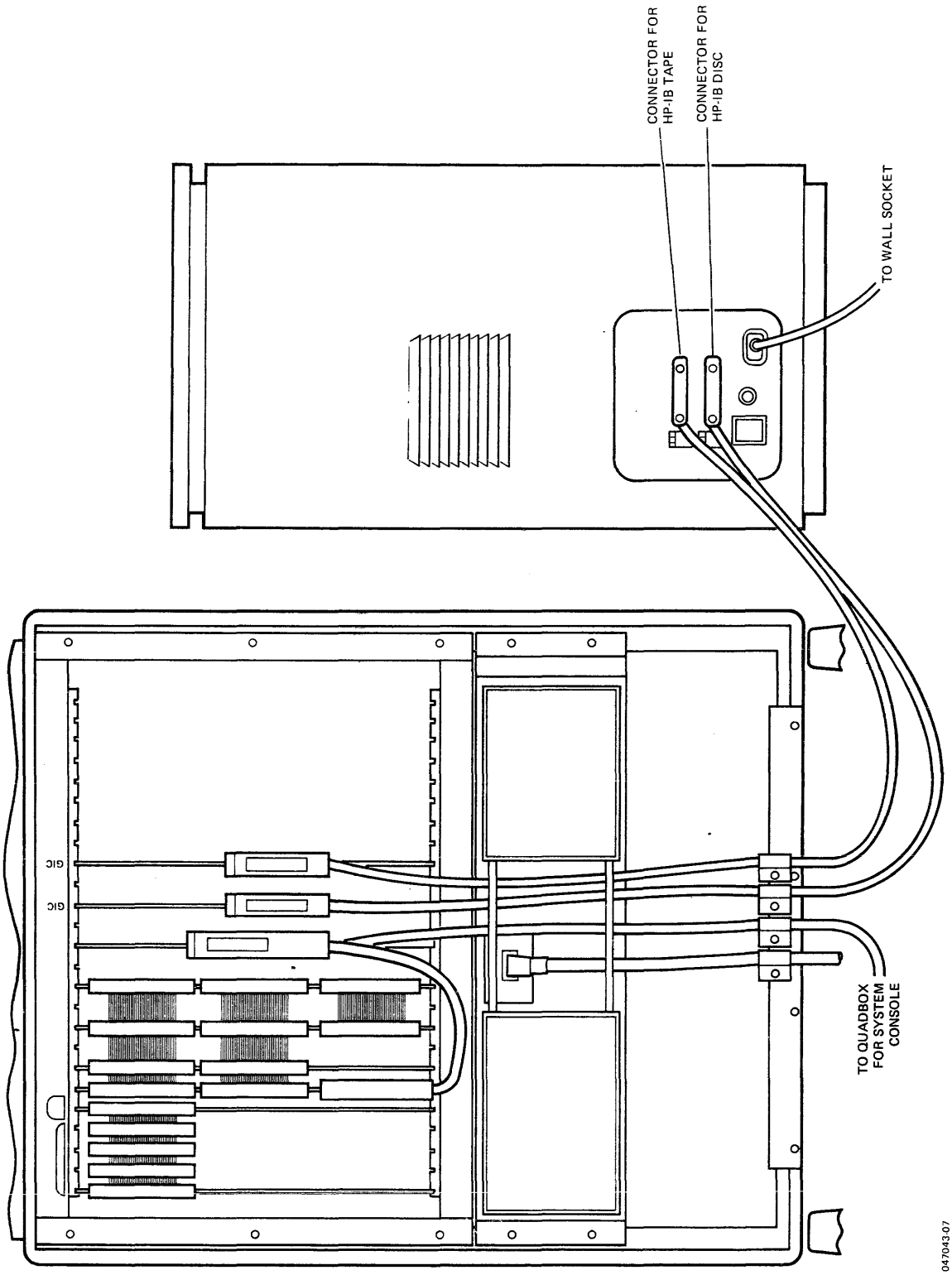


Figure 3-4. 7911P/12P/14P Disc Drive with ICTU Cabling

Installing the HP 7933H Disc Drive

All 7933H Disc Drives must be configured as masters. Install them as follows:

a. Ensure that the disc drive POWER Switch at the rear of the drive is set to OFF.

b. Connect the HP-IB device I/O cable to the connector on the rear of the disc drive.

c. Route the HP-IB device I/O cable to a GIC PCA in the computer cardcage. (Refer to table A-1.)

d. Set the HP-IB device address switches at the rear of the disc drive to 001.

e. Connect the disc drive AC power cord to a dedicated AC power source.

Installing the HP 9895A Flexible Disc Drive

The following procedure applies to single or multiple flexible disc installations.

a. Ensure that the AC power switch on the flexible disc drive is set to OFF.

b. Connect the HP-IB I/O cable from the flexible disc drive to a GIC in the computer cardcage. (Refer to Appendix A.)

c. Connect the flexible disc drive power cord to a dedicated power source with an isolated ground.

INSTALLING MAGNETIC TAPE DRIVES

NOTE

The procedure for installing an Integrated Cartridge Tape Unit (ICTU) is found in the paragraph describing procedures for installing the 7911P, 7912P, or 7914P Disc Drives. The ICTU, when ordered, is built into those machines.

HP 7970E Option 426 or HP 7971 Magnetic Tape (Master)

a. Ensure that the magnetic tape drive POWER switch, located behind the front door, is set to OFF.

b. Ensure that the source voltage matches the requirements of the magnetic tape. (See the HP 7970E Power Label.)

c. Configure the magnetic tape drive HP-IB device address switch, located as illustrated in figure 3-5, to 001.

d. Connect one end of the HP-IB device I/O cable to the magnetic tape; connect the other end to its GIC.

e. Connect the tape drive's power cord to a dedicated power receptacle with an isolated ground.

HP 7970E Option 425 Magnetic Tape (Slave)

a. Ensure that the magnetic tape drive POWER switch, located behind the front door of the unit, is set to OFF.

b. Ensure that the source voltage matches the requirements of the magnetic tape. (See the HP 7970E Power Label.)

c. Connect the power cord from the magnetic tape drive to a dedicated power receptacle with an isolated ground.

d. Follow cabling instructions as described in the HP 7970E Magnetic Tape Unit Service Manual (part no. 07970-90919).

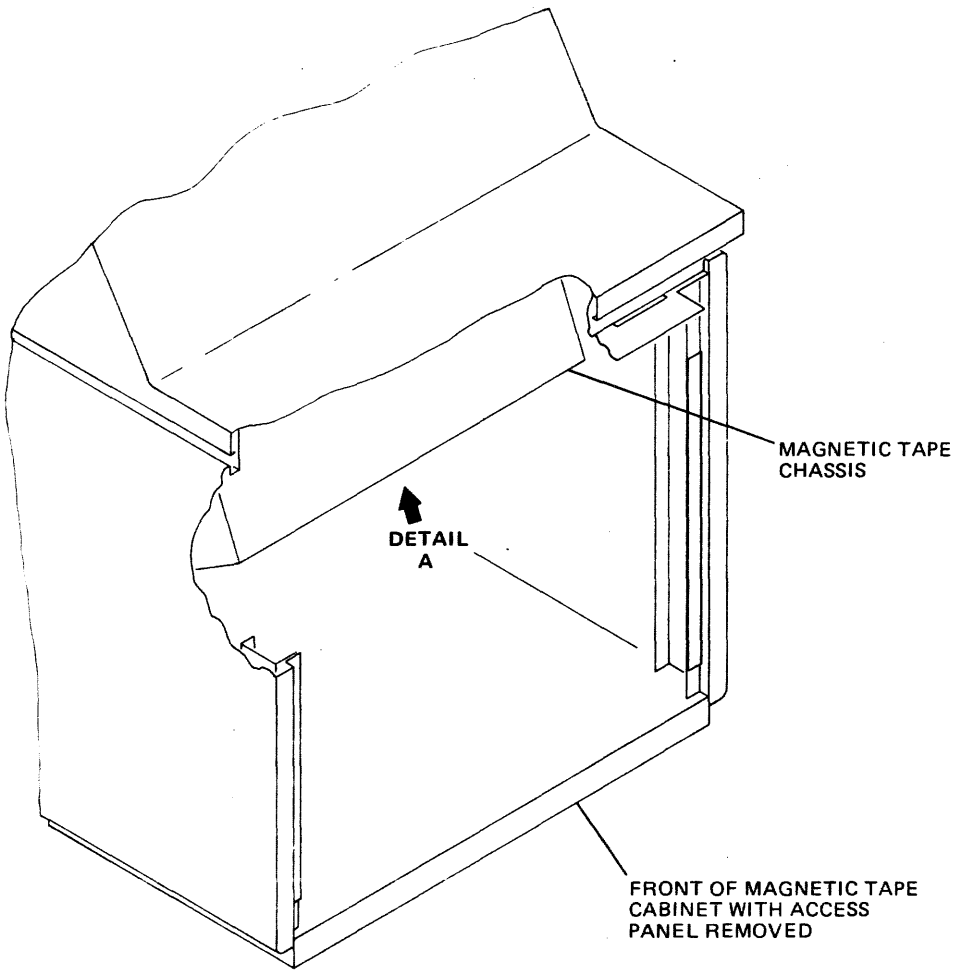
HP 7976A Option 516 Magnetic Tape

a. Ensure that the POWER switch is set to OFF.

b. Ensure that the source voltage matches the requirements of the magnetic tape. (See the HP 7976A Power Label.)

c. Connect one end of the HP-IB device I/O cable to the magnetic tape; connect the other end to the assigned GIC. (Refer to Appendix A.)

d. Connect the power cord from the magnetic tape drive to a dedicated power receptacle with an isolated ground.



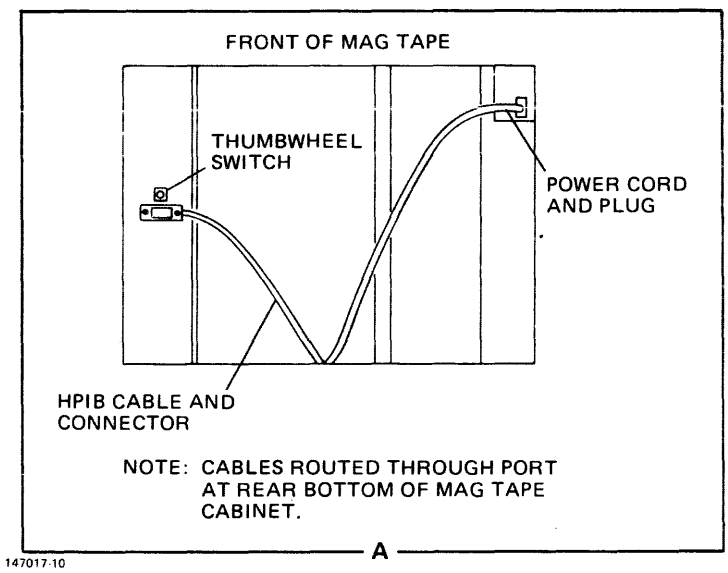

FRONT OF MAG TAPE
THUMBWHEEL SWITCH
POWER CORD AND PLUG
HPIB CABLE AND CONNECTOR
NOTE: CABLES ROUTED THROUGH PORT AT REAR BOTTOM OF MAG TAPE CABINET.
A
147017-10

Figure 3-5. Magnetic Tape HP-IB Device Address Switch and HP-IB Cable and Connector

INSTALLING PRINTERS

HP 2608A/S Line Printer

The following steps apply to installation of single or multiple HP 2608A/S printers. Refer to the 2608 Service Manual (02608-90904) or Technical Reference Manual (02608-90903) for more detailed instructions.

a. Ensure that the main power switch on the back of the printer is set to OFF.

b. Verify that the source voltage matches the requirements of the printer. (See the HP 2608A Power Label.)

c. Configure the line printer to respond to a Parallel Poll by removing the WT5 to WT6 jumper on the 02608-60026 HP-IB PCA.

d. Connect the power cable between the printer and the power source.

e. Configure the printer HP-IB Device Address Switches, by referring to the manuals listed above.

f. Fasten the HP-IB cable(s) to the HP-IB connector at the rear of the printer(s).

g. Daisy chain the HP-IB connectors of multiple printers (unit one to unit two, unit two to unit three, etc.).

HP 2611A/2617A/2619A Line Printers

The following steps apply to the installation of either a single HP 2611A, HP 2617A or 2619A, or multiple-unit installations. (See figure 3-6.)

a. Ensure that the processor POWER switch is set to OFF.

b. Open the rear access door of the processor.

c. Install the HP-IB translator PCA(s) in the slot(s) assigned. (Refer to Appendix A for slot assignments.)

d. Connect the ribbon cable assembly between the J3 edge connector on the translator PCA and the J3 edge connector on the assigned GIC.

e. On the translator PCA, configure the HP-IB address switch according to the in the installation manual shipped with the printer.

f. Connect translator cable assembly to the Winchester connector of the printer, and to the translator.

g. Ensure that the printer POWER switch is set to OFF.

h. Connect the printer AC power cord to a dedicated power receptacle.

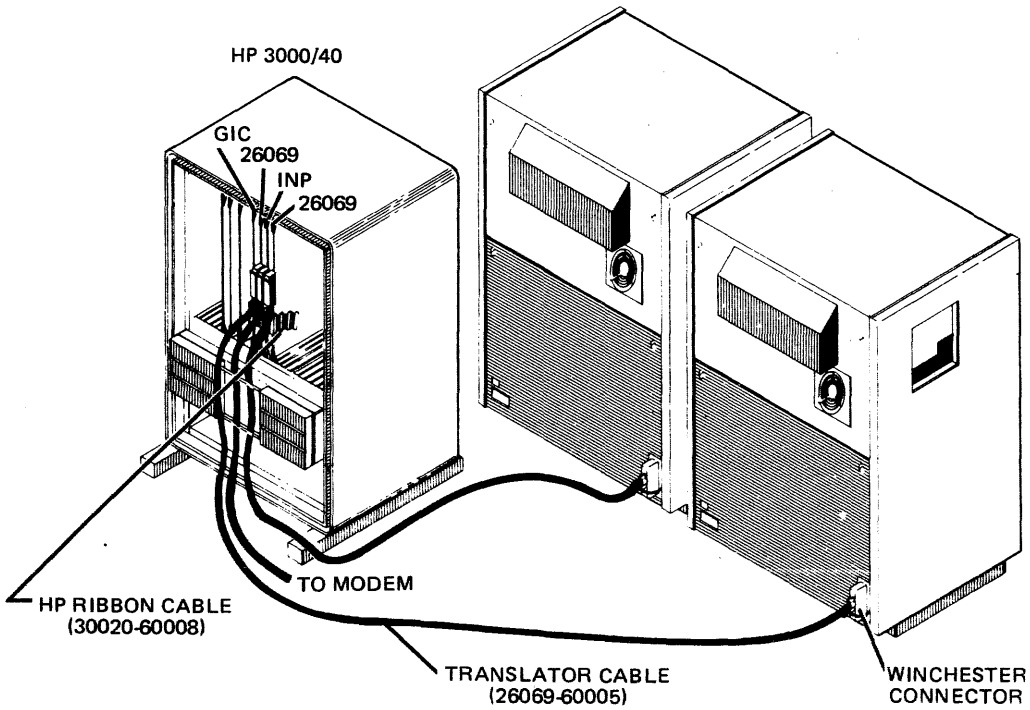


Figure 3-6. HP 2611A/2617A/2619A Cable Connection

HP 2631B Line Printer

The following applies to the installation of single or multiple HP 2631B printers.

Follow steps outlined for terminals, but observe the following difference concerning the HP-IB Device Address switches. Seven mini rocker switches at the rear of the printer (next to the HP-IB cable connector) select the HP-IB Device Address, Service Request (SRQ), and Listen Always (LA) modes. The logic of the switches is defined in octal as follows:

ON = Logic 1
LSB = Switch 5
MSB = Switch 1
Listen Always = Switch 6
Service Request = Switch 7

NOTE

Always set switch 6 (LA) and switch 7 (SRQ) to OFF position when this printer is used on the HP 3000/40 System.

HP 2680A Intelligent Page Printer

To install the HP 2680A page printer, refer to the instructions in the installation manual shipped with it. The HP 2680A must be connected to a dedicated GIC which must be configured as Channel 13 (refer to table A-1).

CAUTION

The page printer contains a laser device. Although it is a low power device, the safety precautions given in the service documentation must be followed. Only qualified personnel should install and service the unit.

INSTALLING TERMINALS AND PRINTING TERMINALS

Supported terminals include all 264x series and 262x series. Supported printing terminals include the HP 2635A and HP 2601A.

a. Ensure that the terminal main power switch is set to OFF.

b. Ensure that the power source voltage matches terminal requirements (see the power label).

c. Connect the power cord from the terminal to a dedicated power receptacle with an isolated ground.

d. Connect the keyboard and RS-232 compatible cables to the connectors, which are keyed to the connectors on the terminal.

e. Route the free end of the RS-232 cable from the terminal to the computer.

TURNING ON THE NEW SYSTEM

SECTION IV

PROCESSOR/PERIPHERAL TURN-ON

a. Ensure that the processor voltage matches that of the dedicated power source. Before the system can be connected to the power source, the power source must be within +4/-10 percent of the input voltage requirement. (See figure 4-1.)

NOTE

100V operation, although shown in figure 4-1, is NOT supported by Hewlett-Packard. If the customer site has 100V power, they must provide a transformer that steps the voltage up to 120V.

b. Connect the processor AC power cord into a 60-Hz or 50-Hz receptacle.

c. Set the POWER switch to ON.

d. Power on and place all peripheral devices on line.

e. Perform the following tasks associated with the power supplies:

1. Ensure that the fans are operating.

2. The yellow Power LED on the left side of the front panel nameplate should be on.

3. The top and bottom red LEDs on the printed circuit side of the appropriate backplane should activate. Open the rear door for viewing. (See figure 4-2.)

   In addition, the BATTERY LED on the system control panel should be off.

4. With an HP 970A voltmeter (or equivalent) measure the test point voltages on the backplane. Follow the specifications in table 4-1.

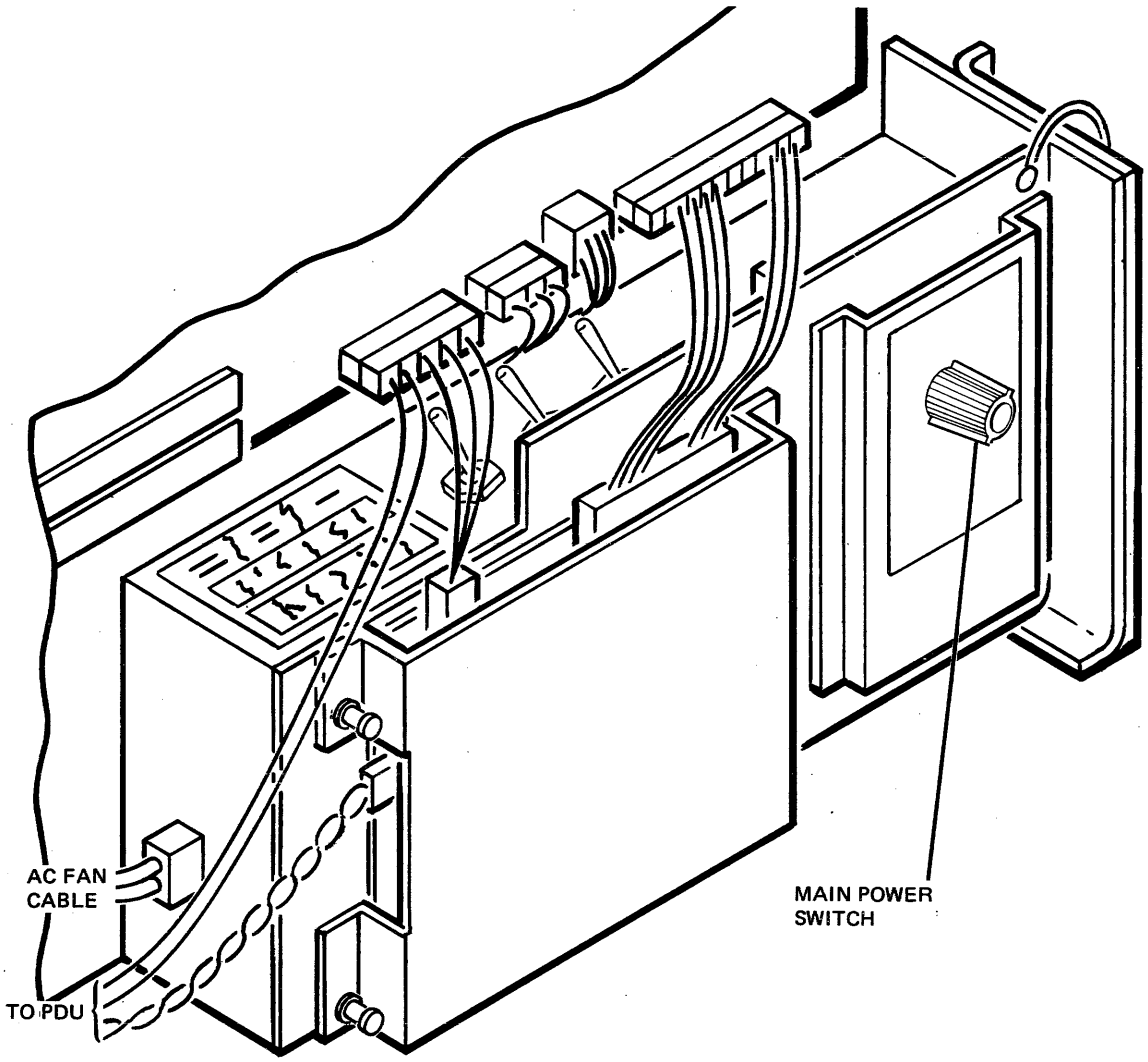
Table 4-1. Test Point Voltages

VOLTAGE	MIN. READING	MAX. READING	RIPPLE VOLTAGE
+5v Volts	+4.99	+5.01	0.05 v p.p.
+12v Volts	+11.99	+12.01	0.075 v p.p.
-12v Volts	-12.25	-11.75	0.075 v p.p.
+5m Volts	+4.95	+5.15	
+12m Volts	+11.90	+12.10	
-12m Volts	-14.0	-11.0	

If adjustment is required, refer to the HP 3000 Series 44 and Series 40 Reference/Training Manual (30090-90001).

DISC DRIVE HEAD ALIGNMENT

Because of MPE support of private volumes, disc pack/cartridge interchangeability must be guaranteed. Therefore, all disc drives installed on the system must be checked for proper head alignment as described in their respective service manuals.



AC LINE VOLTAGE	⚠ SWITCH SETTING ⚠	FUSE
100		3A (250V)
120		3A (250V)
220		1.5A (250V)
240		1.5A (250V)

147043-09

Figure 4-1. Power Configuration Label and Switch Settings

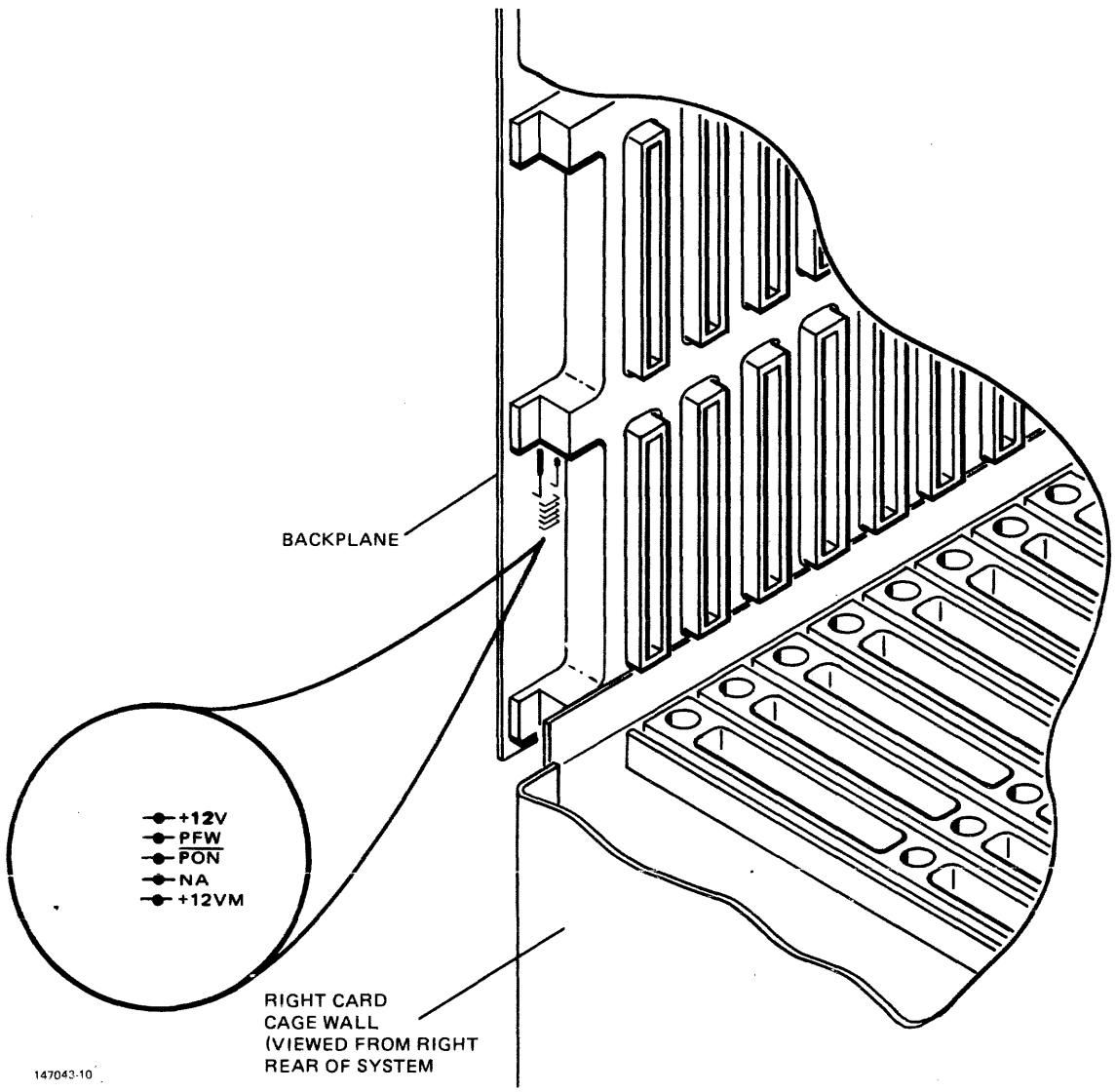


Figure 4-2. Backplane LEDs

SYSTEM VERIFICATION

SECTION V

The system is verified in two steps. Step one is an OFF-LINE verification which checks the following:

a. Cold Load Path
b. Selected Assemblies
c. Peripheral devices

Step two is an ON-LINE activity which does the following:

a. System Cold Load from Magnetic Tape
b. System Configuration
c. System Utilization.
d. Workout2
e. Power Fail Verification

Refer to the HP 3000 HP-IB Computer Systems Diagnostic Manual Set (30070-60068), when information is required to run diagnostics or self tests. If a step does not complete successfully, corrective action is required before proceeding. Use the diagnostics and associated manuals to identify hardware problems. Use the HP 3000 Series 44 and Series 40 Reference/Training Manual (30090-90001), for descriptions of the processor components. Use the peripheral device service manuals for specific hardware and maintenance descriptions. Table 5-1 lists the available device tests that can be performed.

Table 5-1. Available Device Tests

DEVICE	STANDALONE	DISC VERIFIER	SELF-TEST	SLEUTH SIM.	CMP* SELF-TEST
79XXB		X		X	
13037B	X			X	
2608A			X	X	
2617A					
2619A					
2631A			X	X	
7911P					
7912P					
7914P				X	
7970E	X			X	
7976A	X			X	
9895A	X		X		
262XX					
264XA			X		
2893A					
GIC	X				X
ADCC (Chan 1)	X				X
MEMORY	X				X**
CPU			X		X
CMP					X

* The CMP self test checks the CMP, CPU, memory, system control panel, the ADCC at channel 1, and all GICs.

** First 128K Words of Memory tested only in self test.

OFF-LINE VERIFICATION

a. Run the System Console Self Test.

b. Run the CMP self test and IOMAP.

c. Cold load the Diagnostic/Utility System. Refer to the Diagnostic/Utility System Reference Manual (30070-90043), which is part of the HP 3000 HP-IB Computer Systems Diagnostic Manual Set (30070-60068).

d. Type: "IOMAP"; a map of the I/O configuration of the devices connected to the system will be output to the console. Verify that all device and channel numbers correspond to the system configuration matrix.

f. Run the GIC, ADCC, and MEMORY standalone diagnostics (also members of the 30070-60068 manual set referred to in Step c).

f. Run all appropriate diagnostics, self tests, and sleuth verifiers on any of the peripheral devices installed, including:

1. Printers
2. Magnetic Tape Drives
3. Disc Drives
4. Flexible Disc Drives

NOTE

Format and verify all disc packs/cartridges. Upon completion of format procedure, flag all defective tracks. Refer to CE Handbook (30070-90010), contributed SLEUTHSM programs.

ON-LINE VERIFICATION

a. Ready all disc drives, referencing disc drive unit "0" as the system disc drive.

b. Ensure that the cold load thumb wheel switch on the system front panel is set to Channel=9; Device=1.

c. Ensure that the HP-IB address of the cold load device matches the thumbwheel switches.

d. Cold load and configure I/O devices onto the system as described in the following procedure. The description is a summary intended to illustrate a general guide line. Specific information must be obtained from the System Manager/System Supervisor Reference Manual.

STEP PROCEDURE

1 On the System Control Panel, set the LOAD thumbwheel switch to the octal value of the DRT number (channel address and device address) of the cold load device.

2 For startup from the System Control Panel, press the LOAD key. For startup from the System Console, type LOAD on the keyboard.

3 Press RETURN on the System Console and respond to the Initiator prompts.

HP 32002v.uu.ff (RETURN)
WHICH OPTION <COLDSTART/RELOAD/UPDATE>? COLDSTART
ANY CHANGES? YES
LOAD MAP? (RETURN)
MEMORY SIZE=nnn.? (RETURN)
I/O CONFIGURATION CHANGES? YES
LIST I/O DEVICES? YES
LIST CS DEVICES? YES
HIGHEST DRT?=nnn.? (RETURN) or higher number
LOGICAL DEVICE #? nnn
DRT #? nnn
UNIT #? nnn
SOFTWARE CHANNEL #? n
TYPE?
SUB TYPE?
RECORD WIDTH?
OUTPUT DEVICE?
ACCEPT JOBS/SESSIONS? [YES] [NO]
ACCEPT DATA? [YES] [NO]
INTERACTIVE? [YES] [NO]
DUPLICATIVE? [YES] [NO]
INITIALLY SPOOLED? [YES] [NO]
INPUT OR OUTPUT? [IN] [OUT] (Spooled devices only)
DRIVER NAME? (See Appendix D of the HP 3000 Console Operators Guide)
DEVICE CLASSES? device class name
LOGICAL DEVICE #? (RETURN)
MAX # OF OPEN SPOOLFILES=nn.? (RETURN)
LIST I/O DEVICES? (RETURN)
LIST CS DEVICES? (RETURN)
CLASS CHANGES? (RETURN)
LIST I/O DEVICES? YES
DISC VOLUME CHANGES? (RETURN)
MAX # OF SPOOLFILES KILOSECTORS=nnn? (RETURN)
RECOVER LOST DISC SPACE? (RETURN)

4 Dismount and mount magnetic tapes as indicated to completely bring up the system. When the following message appears, the system is completely up.

DATE (M/D/Y)? mm/dd/yy
TIME (H:M)? hh:mm (24hr clock)

WORKOUT2

WORKOUT2 is an on-line program that exercises the Disc and Magnetic Tape Drive units.

An example of using WORKOUT2 is given below and assumes the system has been brought up through "=SESSION". Operator entries, in the example, are underlined. Pressing "RETURN" key in response to a question automatically selects the default answer.

NOTE

The program will allow only one try after an invalid entry to a prompt is given. For example; the proper response to "NUMBER OF DISC FILES?" is a number from 0-64. If a number greater than 64 is inadvertently entered the program response would be "BAD INPUT--TRY ONCE MORE". A second invalid entry would result in a program response of "SORRY-- YOU LOSE" and program termination. Which means you should start over.

:HELLO FIELD.SUPPORT,HP32231

:LISTF

(Check to ensure that WORKOUT2 is included in the listed files. If it is not restore it)

:RUN FREE2.PUB.SYS

(examine the "FREE" sectors shown. Each WORKOUT2 file requires 4096 sectors; smaller fragments cannot be used. For example, if 8000 sectors are available only one WORKOUT2 file will fit. If the disc is heavily fragmented, it may be necessary to do a Coolstart and "Recover Lost Disc Space" or a Reload.)

:SWITCHLOG

LOG FILE LOGxxxx IS yy% FULL LOG FILE NUMBER nnnn ON

(You have closed Log File #xxxx and opened Log File #nnnn. Write down the number nnnn for use later on when LISTLOG2 is run. Press RETURN key to get ":" prompt back.)

:RUN WORKOUT2.PUB.SYS[;PARM=]

(Three options are available but not mandatory:

;PARM=1 Eliminates comparing data buffers after each READ ,and should not be used except for performance measurement.
;PARM=2 Causes END OF PASS messages to be displayed at System Console as well as with $STDLIST.
;PARM=3 Accomplishes both of the above.)

NUMBER OF DISC FILES? 2

(Assuming sufficient space was shown during "RUN FREE2" enter any number from 0-64. WORKOUT2 will attempt to open that number of files. Default is 0.)

LDN FOR FILE #1? 1

LDN FOR FILE #2?1

(The above example assumes that only the system disc is on-line at this time. If more discs are present, any number from 0-255 may be specified. When zero is entered, WORKOUT2 spreads its files over all devices in class DISC. Default is 0.)

IS A SORT TO BE DONE? NO

(This question will not be asked unless the answer to "NUMBER OF DISC FILES?" above was 2 or greater. If a "YES" answer is given, it causes file #1 to be sorted and written to file #n; where "n" is the last file specified. For example, if you specified 2 disc files above and answered this question with "Y" the program would write to file #1, read back the data, sort it, then write it to file #2. Doing a sort significantly lengthens the program run time, thus it is not recommended. Default is NO.)

NUMBER OF TAPE FILES? 1 (if a tape unit is available)

(Enter a number from 0-4. Default is 0. If a tape is not used the next question and it's reply will not be required.

NUMBER OF PASSES? 1

(Any number from 0-32766 may be entered. Default is 0, which causes the program to terminate immediately.)

?TIME/SESSION #/PIN #/LDEV #FOR "WORKTAPE1" ON TAPE (NUM)?

=REPLY PIN#, LDEV#

(Be sure you have mounted a "scratch" tape or one whose current contents you do not object to losing.)

TIME START (WORKOUT2 now attempts to open the files. If all are successfully opened, no message will appear. If any file cannot be opened, a message to that effect will appear, followed by a message telling how many files were successfully opened.)

TIME END OF PASS 1

END OF PROGRAM

:LISTF LOG@.PUB.SYS

(The purpose here is to learn if there have been any new logs opened after number nnnn above.)

:HELLO MANAGER.SYS

(In order to run LISTLOG2, below, you must have System Manager capability. Thus we exited from FIELD.SUPPORT and logged onto MANAGER.SYS.)

:RUN LISTLOG2.PUB.SYS

ENTER FIRST AND LAST LOG FILE TO BE ANALYZED
FIRST?_____ (Enter nnnn from above)
LAST?_____ (If no new logs have been opened after number nnnn,
LAST will also be nnnn.)

ENTER EVENTS TO BE PRINTED
TYPE NO. EVENT
0 LOG FAILURE
: :
: :

: :
11 I/O ERRORS
: :
ENTER EVENT NUMBERS SEPARATED BY COMMAS. A CARRIAGE RETURN ASSUMES ALL EVENTS WILL BE EVALUATED.

11 (An entry of 11 is shown, since we are only interested in I/O errors.)

The Listlog2 output will be directed to the line printer; ensure it is on-line.

DO YOU WANT TO PURGE LOG FILES? NO

(If the previous FREE2 listing indicated the disc was getting low on space, you may wish to enter YES to purge the log files.)

DO YOU WISH TO RUN AGAIN (Y OR N?) N

END OF PROGRAM

Examine LISTLOG2 printout for Disc and/or Tape errors.

System Power Fail Recovery Verification

Now that the system is up and WORKOUT2 has completed one pass, the Power Fail test should be performed.

Prior to performing the Power Fail test the following conditions should exist:

a. SYSDISC configured as LDEV #1

b. SYSDISC pack installed on master drive

To perform the Power Fail test run WORKOUT2 again, only this time:

a. Answer 0 to "NUMBER OF TAPE FILES?"

b. Answer "NUMBER OF PASSES?" with a number high enough to ensure the program runs long enough for Power Fail test to be accomplished (approximately 3).

Power fail the system by either turning off the processor power switch or by disconnecting the system power plug from the wall outlet. If possible, use Customer's breaker box to simultaneously power fail the system and all discs associated with the system.

Reconnect power after approximately 30 seconds. Verify successful recovery by the following:

a. WORKOUT2 resumes execution

b. Depending on terminal timing, a power fail message may be displayed on the console when SYSDISC goes ready.

c. System console does not "hang"

d. System does not HALT or go into 100% utilization

Repeat this procedure for two additional cycles, using power fail periods of approximately 15 and 5 seconds.

System Back-Up

Back up the system back to the magnetic tapes shipped with the system, as follows:

a. Log on to MANAGER.SYS and do a "Date 0" Sysdump. Refer to the Console Operators Guide for help, if required.

b. Give all system magnetic tapes to the customer for safekeeping.

c. Complete the System Installation Report form in the System Support Log.

Conduct System Operator training as outlined in Section 6 and then release the system to the customer for use.

TRAINING THE SYSTEM OPERATOR

SECTION VI

The CE is responsible for familiarizing the operator with the operation and the periodic customer maintenance of the HP3000/40 Computer System. The main sources of information the CE should use are the Functions of the Console Operator Section of the Console Operator's Guide and the customer preventive maintenance section of the System Support Log. The following topics should be discussed:

- o The documentation supplied with the system
- o Power on/off
- o System Control Panel and CMP operation
- o Daily maintenance
- o Connecting data terminals
- o Other peripheral device operation
- o Self test
- o Remote maintenance facility
- o Warmstart
- o Coldload
- o Dump
- o Shutdown
- o System backup
- o Conditioning private volume disc using VINIT
- o Serialize disc packs/cartridges
- o Overtemp Recovery

HARDWARE CONFIGURATION

APPENDIX A

This appendix provides guidelines for assigning slot and channel numbers in configuring the Series 40 Computer System. Slot assignments vary; channel assignments are predetermined.

Table A-1. Recommended Card Cage Configuration

SLOT NO.	PCA
1	Memory Array (0-256 kbytes or 0-1 Mbytes)
2	Memory Array (256-512 kbytes or 1-2 Mbytes)
3	Memory Array (512-768 kbytes)
4	Memory Array (768-1024 kbytes)
5	Memory Controller
6	CMP
7	PCS
8	(empty)
9	ALU
10	(empty)
11	CTL
12	(empty)
13	ADCC-Main (Channel 1)
14	ADCC-Extended
15	GIC (Channel 11) to disc controllers (2 max.) and to internal peripherals
16	INP
17	INP
18	GIC (Channel 9) to mag tape (1 master and 3 slaves)
19	GIC (Channel 10) to 2nd mag tape or external peripherals
20	Printer interface
21	ADCC-Main (Channel 2)
22	ADCC-Extend
23	ADCC-Main (Channel 3)
24	ADCC-Extend
25	ADCC-Main (Channel 4) or GIC (Channel 13) to HP 2680A Page Printer

CONFIGURATION RESTRICTIONS

General Rules

The following general rules apply to all Series 40 and 39 systems:

a. The first Memory Array PCA must be installed in Slot 1; the Memory Controller PCA must be installed in Slot 5.

b. The CMP is installed in Slot 6, and the PCS, ALU, and CTL PCAs are installed in Slots 7, 9, and 11, respectively, for adequate cooling. NO PCAs are to be installed in Slots 8, 10, or 12.

c. The first ADCC-Main must be installed in Slot 13 so it can be reached by the CMP Cable. Slot 14 is reserved for the ADCC-Extend.

d. Internal HP-IB devices such as INPs or printer interfaces must be installed adjacent to their controlling GICs. This allows the internal HP-IB flat cable to connect to these PCAs without passing over other PCAs.

GIC PCA Installation Rules

The following rules apply specifically to the installation of GIC PCAs:

a. The first GIC must be installed in Slot 15.

b. The GIC used for the system disc can also be used by internal devices. Additional external HP-IB devices, such as printers, must be connected to a separate GIC.

c. No more than eight HP-IB electrical loads can be installed on any one GIC. (Some devices count as MORE THAN ONE LOAD. Refer to table A-2.)

d. No more than two GICs with "high-speed" devices may be connected. ("High" and "low" speed devices are listed in table A-2.)

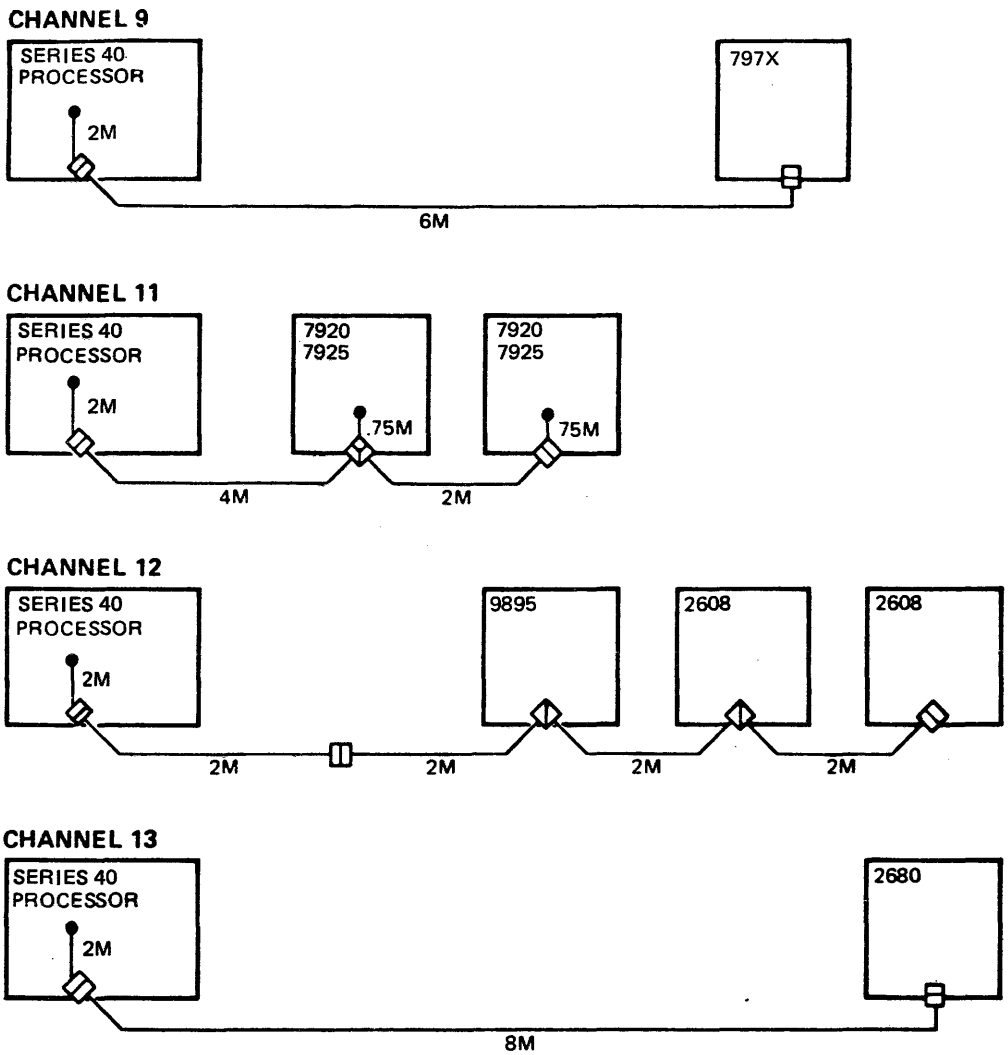
e. No more than six high-speed devices can be installed on any one GIC.

f. Any low-speed device (EXCEPT the HP 2608A) can be connected to a GIC that has high-speed devices connected, as long as the limit of six high-speed devices is observed.

g. Performance of the system may be degraded if a 7976A is connected to the same GIC as the system disc.

Table A-2. Peripheral Speeds and Device Loads

PERIPHERAL	SPEED	HP-IB ELECTRICAL DEVICE
7911P/12P/14P ICTU	Low	Dedicated GIC
7911P/12P/14P Disc	High	1
7920/25, or 7933H	High	1
7970E (Opt. 426)	Low	Dedicated GIC
7976A	High	2
2608A/11A/17A/19A	Low	1
2680A	High	3
9895A	Low	1
30106A	Low	Dedicated GIC
INP	Low	1



HP-IB Cable Part Numbers:

10833A	1m (3.3 ft.)
10833B	2m (6.6 ft.)
10833C	4m (13.2 ft.)

147003-10

Figure A-2. External HP-IB Cable Configurations

UPGRADE INSTALLATION INFORMATION

APPENDIX B

INTRODUCTION TO UPGRADES

This appendix contains procedures for upgrading HP 3000 Pre-Series II, Series II, 30, and 33 Computers to the Series 40 or 39 Computer.

It also describes the dismantling, packing, and disposition of the existing computer. Procedures for installing the new computer are covered in the main body of the manual.

Upgrading to HP 3000 Series 40 From HP 3000 Pre-Series II, Series II, III, 30, 33

Product number 32445AH applies to all of the upgrades with each being followed by a different option number. Refer to table B-1. In general, the upgrade includes: a 110-120V, 60-Hz, single-phase power supply; a System Processor Unit; 512 kbytes of Fault Control Memory; a Control and Maintenance Processor; a system self test; remote diagnostic capability; the Fundamental Operating Software, which includes the Multiprogramming Executive Operating System, EDIT/3000, FCOPY/3000, SORT-MERGE/3000, IMAGE/3000, QUERY/3000, HP V/3000, KSAM/3000, and the facility to execute compiled programs without the source language compiler on the system (except for programs written in APL/3000); and a basic set of manuals.

Also required but not included in the basic upgrade are two General I/O Channels (GICs, 30079-040) and one ADCC (30018A-040). If GICs or ADCCs are transferred from other systems, new cables may be required. An isolation transformer is not included; however, power line conditions may make one necessary.

Table B-1. Upgrade Options

PRODUCT #	OPTION	DESCRIPTION
32445AH	022	Software supplied on tape cartridge
	015	220V to 240V, 50-Hz operation
	507	1 Mbyte of Memory
	601	Upgrade from Pre-Series II
	602	Upgrade from Series II
	603	Upgrade from Series III
	605	Upgrade from Series 33A/B
	606	Upgrade from Series 33C/U
	607	Upgrade from Series 30A/B
	608	Upgrade from Series 30C/U
30079A	040	General I/O Channel (GIC) Series 40 Internal Cable (required when upgrading from Pre-Series II or Series II).
30022A	040	General I/O Channel Cable (GIC) compatible with Series 40 (required when upgrading from Series 30 or 33).
30018A	040	Asynchronous Data Communications Controller (ADCC), Main (required when upgrading from Series 30 or 33).
30188A	040	ADCC Main Extender Cable compatible with Series 40 (required when upgrading from Series 30 or 33).
30020A	040	Intelligent Network Processor (INP) (required when upgrading from Pre- Series II or Series II).

Upgrading involves several tasks. First, the system console can be modified, the I/O channel PCAs are removed and reserved, and the equipment being upgraded is prepared for shipment. Next, the Series 40 Computer is installed and brought to operating status.

Before installing the Series 40 Computer, the CE must test the existing system to ensure that it is operational. When peripherals are returned, they should also be tested to ensure they are operational. Equipment can be upgraded and returned to Hewlett-Packard only if it is operational.

To verify the functionality of the returning system and peripherals, the following tests must be performed.

HP 3000 System - Cold Load Self-Test

Disc Controller - Run the six-month PM procedure
in accordance with instructions
in the System Support Log.

Mag Tape Unit - Run the four-month PM procedure
in accordance with instructions
in the System Support Log.

System Console - Terminal Self Test

An inventory of the equipment to be returned to Hewlett-Packard must be performed. Refer to the Return Equipment Checklist. Any damage to the equipment must be noted on the checklist.

NOTE

Before modifying or removing equipment, remove AC power from all units of the system at the main system power panel. Then disconnect all power and signal cables connected to the computer.

Preparing the System for Upgrade

To prepare the system for upgrade, proceed as follows:

a. Remove all GICs, INPs and printer translator PCAs (Series 30, and 33 only). Set them aside for installation into the Series 40.

b. Reserve all signal cables.

c. Complete the forms necessary to process the returned system. These forms include the Notice of Return and Return Equipment Checklist.

   1. The Notice of Return (NOR) form will be used by Systems Re-marketing Division to track the replaced equipment when it arrives at the factory. The NOR form will be shipped to the customer site with the new equipment packing list.

The NOR will be completed by the CE and returned with the return equipment packing list.

2. The Return Equipment Checklist will be used by Manufacturing to check incoming equipment for missing or damaged parts. The completed checklist will be returned with the return equipment packing list. Be sure to reference the original sales order number on the checklist and all paperwork being returned with the old computer.

d. After the return unit and/or peripherals for which credit has been issued have been prepared for shipment, attach the shipping label (found at the end of this appendix) along with the Notice of Return and The Return Equipment Checklist forms to the front of the unit(s). Do not attach any adhesives to the painted surface of any unit. Arrange for the return unit(s) to be moved to the customer's shipping area.

Ship European returns to:

HEWLETT-PACKARD GmBH
Boeblingen General System Division
Herrenberger Strasse 10
D-7030 Boeblingen, West Germany
Attention: Traffic Manager

Ship all other returns to:

HEWLETT-PACKARD CO.
Systems Re-Marketing Operation
1324 Kifer Road
Sunnyvale, CA 94086
Attention: Traffic Manager

Reference the original system sales order number for tracking purposes.

e. For upgrades installed in the United States, the CE must notify the Systems Re-Marketing Operation (SRO) Order Processing Department (408-738-8858 x301) that the upgrade installation is complete and the replaced equipment is ready to be returned. The CE must also provide SRO with a customer contact and telephone number.

SRO will coordinate the pickup and return of the upgraded equipment and pay the freight charges.

For upgrades installed in Europe and ICON, shipping arrangements must be made by the Traffic Office of the local Field Sales and Service Office in each country. Europe and ICON will handle return freight charge payments on an individual basis. SRO will absorb freight charges for the United States.

The replaced equipment must be returned to Hewlett-Packard within 30 days of the installation of the upgrade. If the equipment is not returned within 30 days, the customer will be billed for it.

In the United States, the title passes to SRO at the time of invoicing, and the risk of loss passes to SRO when the upgrade equipment is installed.

f. Move the new computer unit into place and install it and the peripherals in accordance with the instructions in the main body of this manual.

PERIPHERAL UPGRADES

Peripherals that are to be used with the Series 40 must be HP-IB compatible devices. All peripheral devices that are used on Series 30, or 33 Computers that are to be upgraded to Series 40 are compatible and require only connecting to the processor in accordance with the instructions in the main body of this manual. However, peripherals that were used with Pre-Series II or Series II Computers require either replacement or modification to make them HP-IB compatible.

The following peripherals can be used as-is with the Series 40:

7920S	50 Mb Slave Disc Drive
7925S	120 Mb Slave Disc Drive
9895A	Flexible Disc Drive
7970E	1600 bpi Slave Magnetic Tape Drive (low-profile cabinet)
7976A	1600 bpi/6250 cpi Magnetic Tape Drive
2601A	Daisy Wheel Printer
2680A	Intelligent Page Printer
2631B	Character Printer (connected to ADCC)
2635A/B	Printing Terminal
262X	Interactive Display Terminals
264X	Interactive Display Terminals
2641A	APL Display Station (supported as a 2645 terminal, but APL features are not supported)

The following peripherals can be upgraded to operate with the Series 40:

7920M	50 Mb Master Disc Drive
7925M	120 Mb Master Disc Drive
7920	50 Mb Disc Drive (SPU resident controller)
7925	120 Mb Disc Drive (SPU resident controller)
7970E	1600 bpi Master Magnetic Tape Drive (low-profile cabinet)
2608A	400 lpm Line Printer
2613/17/19	300/600/1000 lpm line printers
30106A	2893A Card Reader

The following peripherals, which were used on the Pre-Series II or Series II systems, are not supported on the Series 40:

2660A	Fixed Head Disc
2888A	47 Mb Disc Drive
7900A	5 Mb Disc Drive
7905A	15 Mb Disc Drive
7970B	800 bpi Magnetic Tape Drive
7970E	1600 bpi Magnetic Tape Drive (high-profile cabinet)
2607A	200 lpm Line Printer
2610A	200 lpm Line Printer
2614A	600 lpm Line Printer
2618A/B	1250 lpm Line Printer
2749B	Teleprinter
2762A/B	Printing Terminal
30031A	Clock/Console
30104A	Paper Tape Reader
30105A	Paper Tape Punch
30119A	2894A Card Reader/Punch
30126A	CalComp Plotter Interface

PRESERIES II TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 601
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
READ ONLY MEMORY	30001-60001				
SKIP AND SPECIAL FIELD PCA	30001-60002				
ARITHMETIC AND LOGIC UNIT PCA	30001-60003				
R-BUS PCA	30001-60004				
S-BUS PCA	30001-60005				
CURRENT INSTRUCTION REGISTER PCA	30001-60006				
MODULE CONTROL UNIT PCA	30001-60007				
INPUT/OUTPUT PROCESSOR PCA	30001-60008				
CENTRAL DATA BUS TERMINATOR PCA	30001-60009				
INPUT/OUTPUT PROCESSOR BUS TERMINATOR	30001-60016				
POWER BUS TERMINATOR PCA	30001-60021				
CONTROL BOARD PCA	30001-60010				
MEMORY LOAD PCA	30005-60001				
MEMORY DATA AND CONTROL PCA	30005-60002				
MEMORY DRIVE AND SENSE PCA	30006-60002				
SYSTEM CLOCK/CONSOLE INTERFACE PCA	30031-60001				
MULTPLEXER CHANNEL PCA	30035-60001				
TERMINATOR PCA	30035-60033				
CHANNEL SELECTOR PORT CONTROLLER PCA	30030-60005				
SELECTOR CHANNEL REGISTER PCA	30030-60001				
SELECTOR CHANNEL SEQUENCER PCA	30030-60011				
SELECTOR CHANNEL CONTROL PCA	30030-60003				
SELECTOR CHANNEL BUS TERMINATOR PCA	30030-60015				
UPPER ROM PCA	30011-60001				
UPPER ROM PCA	30011-60002				
UPPER ROM PCA	30011-60003				
UNIVERSAL INTERFACE (TTL) PCA	30050-60001				
UNIVERSAL INTERFACE (DIFFERENTIAL) PCA	30051-60001				
UNIVERSAL INTERFACE (TTL) PCA	30050-60003				
SYNCHRONOUS SINGLE LINE CONTROLLER PCA	30055-60001				

PRESERIES II TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 601
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
TERMINAL DATA INTERFACE PCA	30032-60001				
TERMINAL DATA INTERFACE PCA	30060-60001				
TERMINAL CONTROL INTERFACE PCA	30061-60001				
PLOTTER INTERFACE PCA	30226-90007				
HARDWIRED SERIAL INTERFACE	30360-60001				
DISC FILE READ/WRITE PCA	30202-60001				
DISC INF. CABLE	13013-60014				
DISC FILE BUS PCA	30202-60002				
DISC CONTROLLER PROCESSOR PCA	30202-60003				
DISC MEMORY CONTROLLER PCA	30203-60001				
DISC MEMORY DATA PCA	30203-60002				
CARD READER INTERFACE PCA	30206-60001				
CARTRIDGE DISC CONTROLLER PCA	30210-60001				
MAGNETIC TAPE (9-TRACK) CONTROLLER PCA	30215-60001				
MAGNETIC TAPE CONTROLLER PROCESSOR PCA	30215-60002				
CARD PUNCH CONTROLLER	2890-60001 2890-60002 3890-60003				
POWER SUPPLY	30310A				
52" CABINET & DOORS	30390A				
HARDWARE MAINTENANCE PANEL	30352A				
AUXILIARY CONTROL PANEL	30350A				
AUXILIARY CONTROL PANEL INTERFACE PCA	30350-60006				
DISC INT. CABLE	13013-60014				
ASYNCHRONOUS TERMINAL CONTROLLER PCA	30062-60017				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Pre-series II to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES II TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 602
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
READ ONLY MEMORY	30003-60001				
SKIP AND SPECIAL FIELD PCA	30003-60002				
ARITHMETIC AND LOGIC UNIT PCA	30003-60003				
R-BUS PCA	30003-60004				
S-BUS PCA	30003-60005				
CONTROL INSTRUCTION REGISTER PCA	30003-60006				
MODULE CONTROL UNIT PCA	30003-60007				
INPUT/OUT PROCESSOR PCA	30003-60008				
SYSTEM CONTROL PANEL (FRONT PANEL)	30003-60012				
MEMORY CONTROL LOGIC PCA	30007-60002				
SEMICONDUCTOR MEMORY ARRAY PCA	30008-60002				
FAULT CORRECTION ARRAY PCA	30009-60001				
FAULT LOGGING INTERFACE PACE	30009-60002				
EXTENDED INSTRUCTION SET PCA	30012-60001				
SELECTOR CHANNEL CONTROL PCA	30030-60003				
SELECTOR CHANNEL SEQUENCER PCA	30030-60011				
PORT CONTROLLER PCA	30030-60016				
SELECTOR CHANNEL REGISTER PCA	30030-60018				
SYSTEM CLOCK/CONSOLE INTERFACE PCA	30031-60001				
TERMINAL DATA INTERFACE PCA	30032-60001				
ASYNCHRONOUS TERMINAL CONTROLER	30062-60017				
TERMINAL CONTROL INTERFACE PCA	30061-60001				
MULTIPLEXER CHANNEL PCA	30036-60001				
DIAGNOSTIC HARDWARE ASSEMBLY	30049-60003				
UNIVERSAL INTERFACE (TTL) PCA	30050-60001				
UNIVERSAL INTERFACE (DIFFERENTIAL) PCA	30051-60001				
SYNCHRONOUS SINGLE LINE CONTROLLER PCA	30055-60001				
DISC FILE READ/WRITE PCA	30202-60001				
DISC FILE BUS PCA	30202-60002				
DISC CONTROLLER PROCESSOR PCA	30202-60003				

PRODUCT 32445AH OPTION 602
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
CARTRIDGE DISC CONTROLLER INTERFACE	30229-60001				
DISC MEMORY CONTROLLER PCA	30203-60001				
DISC MEMORY DATA PCA	30203-60002				
CARD READER INTERFACE PCA	20206-60001				
CARTRIDGE DISC CONTROLLER PROCESSOR	30202-60003				
CARTRIDGE DISC CONTROLLER PCA	30210-60001				
MAGNETIC TAPE (9 TRACK) CONTROLLER PCA	30215-60006				
MAGNETIC TAPE CONTROLLER PROCESSOR PCA	30215-60002				
CARD READER/PUNCH INTERFACE PCA	30050-60008				
PLOTTER INTERFACE PCA	30226-60001				
HP 30310A POWER SUPPLY	30310-60024				
SEMICONDUCTOR MEMORY POWER SUPPLY	30311-60001				
POWER SUPPLY	30312-60001				
56" CABINET & DOORS	29402B				
DISC. INT. CABLE	13013-60014				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series II to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES III TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 603
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
EXTENDED INSTRUCTION SET PCA	30012-60001				
READ ONLY MEMORY PCA	30003-60021				
SKIP AND SPECIAL FIELD PCA	30003-60022				
ARITHMETIC AND LOGIC UNIT PCA	30003-60003				
R-BUS PCA	30003-60004				
S-BUS PCA	30003-60025				
CONTROL INSTRUCTION REGISTER PCA	30003-60006				
MODULE CONTROL UNIT PCA	30003-60007				
INPUT/OUTPUT PROCESSOR PCA	30003-60028				
CPU BACKPLANE PCA	30003-60029				
MEMORY CONTROL & LOGGING PCA	30007-60005				
SEMICONDUCTOR MEMORY ARRAY PCA	30008-60003				
SYSTEM CONTROL PANEL (FRONT PANEL)	30003-60012				
SELECTOR CHANNEL PORT CONTROLLER PCA	30030-60020				
SELECTOR CHANNEL REGISTER PCA	30030-60021				
SELECTOR CHANNEL SEQUENCER PCA	30030-60011				
SELECTOR CHANNEL CONTROL PCA	30030-60003				
MULTIPLEXER CHANNEL PCA	30036-60002				
SYSTEM CLOCK/FAULT LOGGING INTERFACE	30135-60063				
OR					
SYSTEM CLOCK PCA	30031-60001				
FAULT LOGGING INTERFACE PCA	30009-60002				
TERMINAL DATA INTERFACE PCA	30032-60001				
TERMINAL CONTROL INTERFACE PCA	30061-60001				
UNIVERSAL INTERFACE (TTL) PCA	30050-60001				
UNIVERSAL INTEFACE (DIFFERENTIAL) PCA	30051-60001				
MAGNETIC TAPE CONTROLLER PCA	30215-60006				
MAGNETIC TAPE CONTROLLER PROCESSOR PCA	30215-60002				
CARTRIDGE DISC INTERFACE PCA	30229-60002				
ASYNCHRONOUS TERMINAL CONTROLLER PCA	30062-60017				
CARD READER INTERFACE PCA	30206-60001				
PLOTTER INTERFACE PCA	30226-60001				

PRODUCT 32445AH OPTION 603
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
SYNCHRONOUS SINGLE LINE CONTROLLER PCA	30055-60001				
CARD READER/PUNCH INTERFACE PCA	30050-60008				
HARDWARE SERIAL INTERFACE PCA	30360-60001				
POWER SUPPLY	63312F-P02				
POWER SUPPLY	61315D-P07				
POWER SUPPLY	63312F-P09				
POWER SUPPLY	62605M-P41				
POWER SUPPLY	30310A				
DISC INF. CABLE	13013-60014				
ASSY. CABLE EXT.	30062-60018				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series III to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES 33A/B TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 605
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
HP-IB JUNCTION PANEL	30070-60014				
REAR DOOR (POWER SUPPLY)	30070-00084				
SHORT SIDE PANEL	30070-00054				
FULL SIDE PANEL	30070-00055				
FRONT DOOR (CONTROL DOOR)	30070-00083				
TERMINAL JUNCTION PANEL DOOR	30070-00080				
FRONT DOOR, RIGHT (CARD CAGES)	30070-00074				
FRONT DOOR, LEFT (CARD CAGES)	30070-00077				
REAR DOOR, RIGHT (CARD CAGES)	30070-00078				
REAR DOOR, LEFT (CARD CAGES)	30070-00079				
CENTRAL PROCESSOR UNIT PCA	30070-60012				
MEMORY CONTROLLER	31202-60001				
BUS INTERFACE CONTROLLER PCA	31000-60053				
EXTENDED FIRMWARE PCA	30070-60090				
MAINTENANCE INTERFACE	30070-60013				
SYSTEM CONTROL PANEL	30070-60008				
ISOLATION TRANSFORMER	9100-4062				
FLEXIBLE DISC DRIVE	7902				
FLEXIBLE DISC CONTROLLER PCA	07902-60024				
POWER DISTRIBUTION UNIT, 60Hz	30016-60001				
POWER DISTRIBUTION UNIT, 50Hz	30017-60001				
CARD CAGE #1	30070-60003				
CARD CAGE #2	30070-60057				
TABLE TOP	30070-00056				
MEMORY ARRAY PCA'S	31204-60001				
TERMINAL	2649E				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series 33 A/B to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES 33 C/U TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 606
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
HP-IB JUNCTION PANEL	30070-60014				
REAR DOOR (POWER SUPPLY)	30070-00084				
SHORT SIDE PANEL	30070-00054				
FULL SIDE PANEL	30070-00055				
FRONT DOOR (CONTROL PANEL)	30070-00083				
TERMINAL JUNCTION PANEL DOOR	30070-00080				
FRONT DOOR, RIGHT (CARD CAGES)	30070-00074				
FRONT DOOR, LEFT (CARD CAGES)	30070-00077				
REAR DOOR, RIGHT (CARD CAGES)	30070-00078				
REAR DOOR, LEFT (CARD CAGES)	30070-00079				
CENTRAL PROCESOR UNIT PCA	30070-60012				
MEMORY CONTROLLER	31202-60001				
BUS INTERFACE CONTROLLER PCA	31000-60053				
EXTENDED FIRMWARE PCA	30070-60090				
MAINTENANCE INTERFACE	30070-60013				
SYSTEM CONTROL PANEL	30070-60008				
ISOLATION TRANSFORMER	9100-4062				
POWER DISTRIBUTION UNIT, 60Hz	30016-60001				
POWER DISTRIBUTION UNIT, 50Hz	30017-60001				
CARD CAGE #1	30070-60003				
CARD CAGE #2	30070-60057				
TABLE TOP	30070-00056				
MEMORY ARRAY PCA'S	31204-60001				
TERMINAL	2649E				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series 33 C/U to 40. Please review the inventory for accuracy,. then sign and date the checklist..

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES 30A/B TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 607
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
CABINET ASSEMBLY	30080-60002				
FRONT PANEL	30080-00010				
REAR PANEL	31000-60081				
CARD CAGE ASSEMBLY	30080-60003				
REMOTE SWITCH BOX ASSEMBLY	30080-60024				
SYSTEM CONTROL PANEL	30080-60005				
POWER SUPPLY UNIT	31000-60002				
FLEXIBLE DISC DRIVE	7902				
FLEXIBLE DISC CONTROLLER PCA	07902-60024				
CENTRAL PROCESSOR UNIT PCA	30070-60012				
BUS INTERFACE CONTROLLER	31000-60053				
EXTENDED FIRMWARE PCA	30070-60090				
MAINTENANCE INTERFACE PCA	30070-60013				
MEMORY CONTROLLER PCA	31202-60001				
MEMORY ARRAY PCA'S	31204-60001				
TERMINAL	2649E				
ADCC POD-CABLE	30080-60024				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series 30 A/B to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.

SERIES 30 C/U TO SERIES 40 UPGRADE INVENTORY
PRODUCT 32445AH OPTION 608
RETURN EQUIPMENT CHECKLIST

REFERENCE SALES ORDER:_____ NOR:_____

COMPONENT	PART NO.	QTY RET'D	REMARKS	FACTORY REC'D	FACTORY TEST
CABINET ASSEMBLY	30080-60002				
FRONT PANEL	30080-00010				
REAR PANEL	31000-60081				
CARD CAGE ASSEMBLY	30080-60003				
REMOTE SWITCH BOX ASSEMBLY	30080-60024				
SYSTEM CONTROL PANEL	30080-60005				
POWER SUPPLY UNIT	31000-60002				
CENTRAL PROCESSOR UNIT PCA	30070-60012				
BUS INTERFACE CONTROLLER	31000-60053				
EXTENDED FIRMWARE PCA	30070-60090				
MAINTENANCE INTERFACE PCA	30070-60013				
MEMORY CONTROLLER PCA	31202-60001				
MEMORY ARRAYS PCA'S	31204-60001				
TERMINAL	2649E				
ADCC POD-CABLE	30080-60024				

Equivalent restored boards, as replaced by the CE, may be substituted for the part number indicated.

This Return Equipment Checklist inventories the replaced equipment resulting from the upgrade of an HP3000 Series 30 C/U to 40. Please review the inventory for accuracy,. then sign and date the checklist.

The HP3000 upgrade includes credit for the replaced equipment. This equipment must be deinstalled and made ready for shipment to Hewlett-Packard at the same time the upgrade equipment is installed. Hewlett-Packard will arrange for shipment to the appropriate Hewlett-Packard facility immediately after deinstallation. The customer should allow the carrier, as scheduled by Hewlett-Packard, to pick-up the equipment so that the equipment can be delivered to Hewlett-Packard within 30 days (U.S. and Canada) and 60 days (ICON and Europe) of installation of the upgrade equipment. Otherwise, Hewlett-Packard shall issue an invoice to recover the amount of credit given for the replaced equipment or cancel the credit order, as appropriate.

Signatures: _____ Date:_____
Customer Representative

_____ Date:_____
HP Customer Engineer

NOTE: Please include this checklist with the returned equipment.